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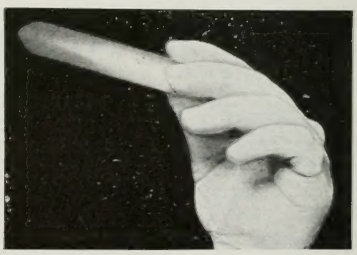

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THE JOURNAL OF CUTANEOUS DISEASES

VOL. XXXV MARCH, 1917 No. 3

ORIGINAL COMMUNICATIONS

A STUDY OF THE NITROGEN METABOLISM OF TWO CASES OF ECZEMA.*

BY JAY FRANK SCHAMBERG, M.D.,

Professor of Dermatology in the Philadelphia Polyclinic and College for Graduates in Medicine

and

G. W. RAIZISS, PH.D.,

Associate Professor of Physiological Chemistry in the Philadelphia Polyclinic and College for Graduates in Medicine.

We have stated in a series of communications (Protein Metabolism in Psoriasis, *Jour. Cutan. Dis.*, Nov., 1913; Summary of Research Studies in Psoriasis, *Jour. Amer. Med. Assn.*, 1914, lxiii, pp. 729-33), that the nitrogenous metabolism in psoriasis presents considerable deviation from that of normal individuals. In practically all of the cases which we studied there was evident a marked tendency to store up nitrogen in the body. In severe cases the amount of nitrogen retained was most striking; the elimination of nitrogen in the urine was in certain cases depressed to the lowest level ever recorded either in normal or pathological conditions. Our studies and experiments demonstrated that a low nitrogen diet had, in general, a favorable influence on the course of the eruption, and, per contra, that a high nitrogen diet exerted an unfavorable influence on the cutaneous condition.

The findings in our published investigations of psoriasis have been

*From the Dermatological Research Laboratories of the Philadelphia Polyclinic.

corroborated by studies of the metabolism of other psoriasis subjects, which we have more recently carried out. It will serve no useful purpose to publish these in detail as they merely support our previous findings without adding any additional knowledge to the subject.

We have been interested in instituting metabolic studies in cases of eczema and other eruptive diseases characterized by marked exfoliation of the epithelial cells in order to compare the results with our findings in psoriasis. In this communication we desire to present the results of a prolonged metabolic study of two cases of eczema. While our attention was primarily directed to the study of the nitrogen balance, we also devoted attention to the question of the partition of the total nitrogen in the urine, particularly the elimination of uric acid. In carrying out this work, all precautions in the interest of accuracy were taken, the same methods of experimentation being employed as described in one of our previous communications (*Jour. Cutan. Dis.*, Nov., 1913).

Case Reports.

Case 1. P. D.; aged 54; boiler maker helper; nativity, Ireland; was admitted to the Polyclinic Hospital on Jan. 14, 1914.

The patient was a short, heavy set man, weighing 147 pounds. He was quite ignorant and could give no intelligent medical history, either personal or family.

The cutaneous condition from which he was suffering had lasted two months. It began as "chapped hands" while he was engaged in work on the battleship Missouri.

Notes made at the time of admission read as follows: At the present time there is an extensive, almost universal erythemato-squamous eczema. The hands and arms are reddened, scaly, greatly thickened and heavily furrowed. The trunk, neck and scalp are scaly and slightly thickened. The feet and legs are red and covered with profuse scales. There is severe itching which leads to uncontrollable scratching.

Fig. 1. Case 1.
Extensive eczema of external origin.

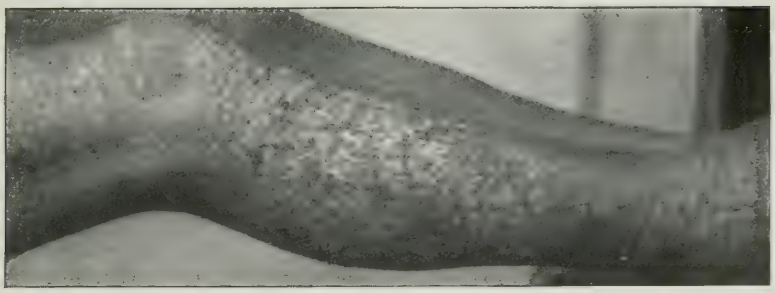

FIG. 2. CASE 1.
Extensive eczema of external origin.

From January 15th to January 20th, the patient was placed on a diet, which, based on the amount of contained nitrogen and the variety of food stuffs, might be called normal. The daily intake of nitrogen was 10.43 grams or 0.160 grams per kilo of body weight. The calorific value of the food ingested was 1991 calories per day or 32.2 calories per kilo of body weight which is sufficient for a normal individual in a condition of rest. During 12 days of this period, 6.14 grams of nitrogen were found in the urine as a daily average; the nitrogen in the fæces was 1.54 grams. When the average total output of nitrogen in the urine and fæces, amounting to 7.68 grams, is compared with the daily intake, it can be seen that 2.75 grams of nitrogen were retained in the body daily, or 33.00 grams during the entire period of 12 days of normal feeding.

This retention of nitrogen is interesting to compare with the loss of nitrogen in the scales. The patient was scaling profusely and was losing large amounts of protein in the form of very fine epithelial flakes. It was difficult to collect these scales quantitatively because of their extreme fineness. As much as could be collected, however, in the patient's bed, contained for the entire period 6.05 grams of nitrogen. A larger amount of nitrogen was found in the sweepings of the patient's room, which were carefully collected and analyzed and which showed 28.77 grams of nitrogen, a very large amount. In some previous investigations we demonstrated that the sweepings

*By "retention of nitrogen" we understand, according to the terminology of physiological chemistry, the process of accumulation of food nitrogen, without consideration as to whether it is permanently kept in the body or thrown off, as for example in psoriasis, where large amounts of nitrogen are lost as the result of exfoliation of epithelial cells.

of a room occupied by a person not suffering from an exfoliative skin affection contained negligible quantities of nitrogen. From the above computation it is evident that the patient lost 34.82 grams of nitrogen through exfoliation of the epithelial cells. This figure we do not claim to represent the entire amount lost through the scales, but it undoubtedly represents the largest part of the protein lost. The patient lost 34.82 grams of nitrogen in the scales and retained 33.00 grams, thus showing a loss in the final nitrogen balance, of 1.82 grams. Inasmuch as the amount of protein through scaling was probably larger than we were able to demonstrate, we are forced to conclude that on a normal diet the patient could hardly accumulate sufficient nitrogen in the system to cover the loss in the exfoliation of scales. During this period the patient lost considerably in weight.

In the next period of 7 days the patient was placed on a low nitrogen diet with two objects in view: first for the purpose of studying the nitrogenous balance, and second, to learn whether such a régime would exert a favorable influence on the eruption. The nitrogen in the food was on an average 5.63 grams per day; the amount of calories per kilo of body weight was 34.2. The total daily average output of nitrogen in urine and fæces was 6.27, indicating that the patient was in a negative nitrogen balance. During the entire period the patient lost 4.48 grams of nitrogen; the loss of nitrogen through scaling was very great, reaching 22.81 grams. It is evident that on a low protein diet the patient was not able to retain food nitrogen in the body sufficient to make up for the loss occasioned by the extensive process of cell exfoliation. The final balance was 27.29 grams. It is interesting to note that in spite of a considerable loss of body protein, the patient's weight remained practically the same, being 63.5 kilos on the first day of the period and 63.2 kilos on the last day.

During the third period of seven days' duration, the patient was kept again on a low nitrogen diet containing on an average 4.9 grams of nitrogen per day and 29.5 calories per kilo of body weight. The elimination of nitrogen in the urine and fæces was somewhat less than during the previous period, amounting to 5.60 grams as a daily average. It is thus seen that the patient continued to be in a negative nitrogen balance represented by the figures —4.90 for the entire period. The loss of nitrogen in the scales during this time was 19.97 grams; in the aggregate 24.87 grams of body nitrogen were lost, again indicating the inability of the patient to retain nitrogen on a low protein diet. During this period the patient lost in weight; the first

day of the period his weight was 63.8 kilograms and on the last day 59.4 kilograms, a difference of 4.4 kilograms.

A low protein diet was continued during the seven days of the fourth period. The patient obtained 5.16 grams of nitrogen per day and 32.2 calories per kilo of body weight. The elimination of nitrogen was almost the same as in the previous period, being 5.67 grams per day, representing 0.51 grams more than was ingested.

It is further evident that the patient could not maintain a nitrogenous equilibrium on a low protein intake, being utterly unable to set aside any nitrogen to compensate for the loss of protein in the scales. The amount of scales, approximately as large as in the previous period, was collected, but was unfortunately lost through an accident during the analysis. We feel justified to assume that the same amount of nitrogen was lost during this period as in the previous one; the total loss, therefore, for this period was 23.54 grams. The weight of the patient declined from 60.0 kilos to 58.9.

The fifth period was the final period of the low protein feeding and resulted in a further loss of 3.85 grams of nitrogen through renal and fæcal excretion and 13.66 grams through exfoliation from the skin. The entire loss was 17.51 grams of nitrogen. The weight of the patient remained, however, unchanged, being 58.9 kilograms on the first day and 58.8 kilograms on the last day of the period.

On the first two days of the sixth period, the patient continued to receive a low nitrogen diet; during the subsequent five days the diet was changed to a normal protein intake; the patient was given from 8 to 9 grams of nitrogen per day. On these days we noticed a retention of nitrogen averaging from 3.62 to 2.67 grams per day; for the entire period, 15.80 grams were retained. The loss of nitrogen in the scales was still considerable, 12.6 grams being dissipated in this manner, making the net gain for the body insignificant, 3.20 grams. While the body gained a few grams of nitrogen, the weight of the patient declined from 59.2 kilograms to 57.9 kilograms. It would appear that the ingestion of a normal amount of protein did cause a retention of nitrogen but barely more than was sufficient to cover the loss of protein through the skin. The deficits of nitrogen which occurred during the previous periods were not compensated for.

The amount of nitrogen given during the seventh period and the character of the food remained the same, being on an average 8.68 grams. The total average output of nitrogen in the urine and fæces was higher than in the previous period, and less nitrogen was there-

fore retained daily; on an average 1.52 grams or a total for 7 days of 10.64 grams.

The loss through the skin was 8.94 grams, showing again that only a small amount of nitrogen was retained to cover the previous loss of body protein. The weight of the patient increased from 57.9 kilograms to 59.5 kilograms.

The average intake of nitrogen remained the same during the eighth period, being 8.43 grams per day; the retention was somewhat similar, being 7.63 grams for the entire period. The loss of nitrogen caused by scaling exceeded that observed in the previous period, being 11.37 grams, thus producing an ultimate negative balance of 3.74 grams.

During the last period of observation the patient received somewhat more nitrogen in the food, 8.93 grams per day. The retention was greater than before, being on an average 1.81 grams per day, or, for the seven days, 12.67 grams. The scaling had considerably diminished and only 5.4 grams of nitrogen were lost. The final balance was 7.27, representing a higher gain of nitrogen than had been before observed on a normal diet. The weight of the patient was stationary during the last two periods.

Reviewing the whole experiment, which lasted for 68 days, we observe that the patient retained a moderate amount of nitrogen on a normal nitrogenous diet, the gain amounting to 79.74 grams during a period of 40 days. On a low nitrogen diet, but sufficient calorific intake, the patient was always in a negative nitrogen balance, losing during 28 days 16.94 grams of nitrogen. The loss of nitrogen in the form of scales was unusually heavy. As far as it was possible to collect and analyze these scales, we estimate that they contained 149.54 grams of nitrogen during the entire period of observation. Deducting the amount of nitrogen retained from that which was lost in the scales, we find that the patient shows a deficit of 86.60 grams of nitrogen, which would represent 542.0 grams of pure protein. The patient lost considerable weight. At the outset of the observation he weighed 66.7 kilos and at the termination, 59.4 kilos, a loss of 7.3 kilos. The loss of weight can be very properly attributed to the loss of body protein.

Case II. H. P., aged 29; salesman; was born in the State of Pennsylvania. The patient is an intelligent man with an excellent memory, and the history detailed below was largely written by himself.

There is no history of any cutaneous disorders in parents or grand-parents. Mother and father, each 60 years of age, are living and in good health, with

the exception of rheumatism in the mother. Five brothers and two sisters are well and free of any skin trouble.

Personal History. Patient suffered from chronic diarrhœa at age of 2 years. Later had an attack of measles, but was free of further illness until he developed a cutaneous disorder at the age of 15.

The patient is well nourished, weight 146 pounds, and is five feet nine inches in stature. He does not use alcohol in any form, but has been a heavy coffee drinker. He has always had a good appetite.

Present Illness. The disease first appeared on both ears about 14 years ago, during the winter months. Both ears would exude a serum for hours, later becoming dry and covered with a yellowish crust and associated with burning. During the months of January, February and March the disease reached the height of its severity and spread downwards on to the neck. The eruption gradually disappeared during the spring and summer months, but reappeared in September, again attacking the ears. The arms and legs, particularly the flexor surfaces of the joints, then became involved, the skin weeping and later exhibiting crusting and fissuring, accompanied by burning. The disease then became more widespread over the extremities and also attacked the trunk; there was marked surface exudation, leading to adhesion of the underclothing to the body. At this time there was very pronounced scaling, the patient being able to gather a quart of scales in his bed each morning. After these attacks the scaling would last from three days to a week. During the first two years after the skin condition became generalized, the patient would have a chill previous to a new attack of the dermatosis and the chilliness would continue throughout the period of weeping. At times the chill would be accompanied by a pronounced feverish feeling. (During the prodromal stage of one of these attacks in the hospital the patient had a chill and a rise of temperature to 104° F.)

The patient states that prior to and during an attack he would feel very thirsty and drink from 10 to 15 glasses of water. In February and March of 1907, the eruption, after a few months' quiescence, again appeared, this time continuing throughout the summer months for the first time.

During this attack the legs became swollen and painful and the patient was obliged to remain off his feet for six weeks. At this time he states he urinated but once a day. He then began taking a medicine containing phenol, glycerine and water, starting with one drop three times a day, and increasing the dose one drop every two days. When he reached 15 drops a day, he states the swelling disappeared from the legs, the pain subsided and the eruption gradually cleared up. He applied a mild ointment to the skin at this time. He remained free of all eruption for five years.

In September, 1912, the eruption again appeared in the bend of the elbows and knees, beginning with itching which led to rubbing. Soon the skin began to ooze, and the eruption spread over the extremities and then over the body and face. This attack was not as severe as some of the previous ones, and the skin would clear up for a month at a time under a mild ointment. But the eruption did not disappear completely and new outbreaks would occur. During one of the recent attacks the hands and feet were the seat of blisters and later, scaling. In January, 1914, the patient received an injection of neosalvarsan, not because of any luetic history, but in the hope that this drug might in some way improve his condition.

In March, 1914, the patient was admitted to the Polyclinic Hospital for observation, study and treatment. On admission, the patient presented a widespread eruption covering the greater part of the body, consisting of a diffuse erythematous inflammation and some thickening of the skin. On various parts of the surface, such as the legs, ears, etc., there was a serous exudation due to the rupture of vesicles. On the legs, some of the vesicles had become pustular and there was a considerable degree of swelling.

The patient remained in the hospital until June 2nd, and while variations

in the eruption occurred during his hospital sojourn, there was vast improvement at the time of his departure. To quote his own words, "My body and arms are clean and white, the skin of the hands soft; there is no scaling, scarcely any irritation, in fact I am better than at any time within the last 20 months."

On admission, the patient was placed on a medium nitrogen diet, containing 11 grams per day. This was continued until April 14th, when a low nitrogen régime (5 grams per day) was inaugurated and continued until the termination of his hospital sojourn. It was evident to physicians, nurses and patient that the most rapid and continuous improvement took place while the patient was on a low nitrogen dietary.

The patient had been on two occasions under treatment in the Philadelphia General Hospital, without experiencing much benefit.

During his stay in the Polyclinic Hospital, indifferent local remedies, such as vaseline, were used, so as not to confuse the interpretation of the results of dietetic treatment.

Metabolic Studies.

The patient was kept, during the first period of observation, which lasted 19 days, on a normal diet containing on an average 11.38 grams of nitrogen per day and 33.8 calories per kilogram of body weight. The daily amount of nitrogen given to this patient was much larger than that which Number 1 received during the first period, but calculated per kilogram of body weight, the nitrogen intake of this patient was about the same. On this diet the patient excreted in the urine on an average 7.58 grams and in the fæces, 1.55 grams of nitrogen per day. Throughout the entire period the patient was in a positive nitrogenous balance, reaching on an average, 2.25 grams of nitrogen per day, or a total of 42.75 grams. The scaling in this case was so extremely slight that it was impossible to collect and analyze any exfoliative epithelium. The amount of nitrogen lost by the skin was a negligible factor; the gain of nitrogen, therefore, was an actual enrichment to the body in protein. The weight of the patient, however, declined during this period from 70.0 kilograms to 68.7 kilograms.

During the second period of 7 days' duration, the patient was placed on a low nitrogen diet, containing, on an average, 5.19 grams of nitrogen per day and 29.0 calories per kilogram of body weight. This change in the nitrogen intake caused the patient to lose nitrogen during the first 2 days. On the third day, however, the patient was already in a condition of nitrogenous equilibrium. During the subsequent days the patient lost insignificant amounts of nitrogen. Leaving out of consideration the loss of nitrogen during the first two

days, which is commonly observed when the intake is changed to a lower nitrogenous level, the nitrogenous balance of the second period was 0.75 grams, showing that the patient very soon reached a condition of nitrogenous equilibrium.

It is evident, too, that the patient's tissues held firmly the nitrogen gained during the first period; no "sweeping out" of the retained nitrogen occurred during the period of low nitrogen feeding.

During the third period of 10 days the intake of nitrogen was further decreased to 4.71 grams per day, or 0.067 grams per kilogram of body weight. The urinary output correspondingly declined and the patient lost only a negligible amount of nitrogen.

The total loss for 10 days was only 1.10 grams of nitrogen which is almost a condition of nitrogenous equilibrium.

The nitrogen intake during the final period of observation, lasting 10 days, was again reduced to the low level of 3.35 grams of nitrogen per day. The amount of calories, however, was sufficient, representing 47.3 per kilo of body weight. The nitrogen content of the diet was 29 per cent. smaller than the previous period. On this very low level of protein ingested, the patient was no longer able to maintain a nitrogenous equilibrium, losing 0.59 grams per day. Since there was practically no loss of nitrogen as a result of exfoliation of scales, either during this period nor any of the previous periods, the total loss of nitrogen during the low nitrogen feeding, was 12.25 grams. The gain in nitrogen, however, during the first period was 42.75 grams; the final balance, therefore, was +30.50 grams. In spite of a positive nitrogen balance, the patient continuously lost weight, declining from 70.0 kilograms on the first day, to 66.3 kilograms on the last day of observation, representing a loss of 3.7 kilograms.

SUMMARIZED RESULTS OBTAINED IN THE STUDY OF THE NITROGEN BALANCE.

The analysis of the results obtained in the metabolic study of these two cases of eczema reveals an interesting fact, namely, that two different clinical types of disease, which, in the present imperfect state of our knowledge of eczema, are grouped under this heading, exhibit quite a different picture with respect to their nitrogen metabolism. While both cases exhibit a tendency to retain the nitrogen of the ingested food as a result of, or preliminary to, the exfoliation of scales, they differ

greatly in regard to the extent of nitrogen retention and its relationship to the protein loss in the scales. Case 1 presents quite a different metabolic picture than that observed in our psoriasis patients, while Case 2 differs very strikingly from Case 1 and presents a close analogy with the psoriasis patients.

Case 1 lost quite as much protein in the scales as did the most severe psoriasis cases which were studied by us and reported upon a year or two ago. In the accompanying table is given an abstract of the metabolic study of a severe case of psoriasis which was studied by us.° It is seen from this table, that the patient was kept throughout the entire experiment on a low nitrogen diet, despite which, however, the patient showed a positive nitrogen balance; during each period, no matter how low an amount of nitrogen was given, the patient was able to retain nitrogen. Such an ability to store up nitrogen with facility was likewise demonstrated in many other of our psoriasis cases.

A careful comparison of the metabolism of patient Number 1 with the metabolic findings in our psoriasis patients, indicates that the tendency to retain nitrogen is considerably less pronounced in this case, than in psoriasis. On a low nitrogen diet the patient was not in a position to maintain even a nitrogenous equilibrium, desipte the fact that large amounts of nitrogen were steadily being lost in the exfoliated epithelium.# Furthermore, on an ordinary nitrogen diet, the patient was not always able to retain sufficient nitrogen to cover wastage of protein lost in the scales. As a result, the patient lost large amounts of body protein. In psoriasis, on the other hand, during and after the outbreak of the eruption, much of the food nitrogen is retained and the patient remains ultimately in a positive nitrogenous balance.

The second case of eczema presents a metabolic picture which is like that observed in psoriasis. While the patient did not scale to any perceptible degree, a considerable amount of nitrogen was retained on an ordinary protein diet; this represented, therefore, a true gain for the body. It was only after the patient was placed on a very low nitrogen intake, that a small loss of nitrogen was observed. In general, the patient exhibited a marked tendency to store nitrogen, being able under favorable conditions of nutrition to accumulate this substance and under unfavorable conditions to at least conserve the acquired amount of extra nitrogen.

°*Jour. Cutan. Dis.*, Nov., 1913, pp. 90-95.

#The final balance.

TABLE A—Protein Metabolism of Patient No. 1

Period	Date 1914	No. of Days	ANALYSIS OF URINE AND FECES—DAILY AVERAGE					Nitrogen Balance for Entire Period	Nitrogen in Scales for Entire Period	Final Nitrogen Balance	Patient's Weight, an Average for the Period	Calories per Day	Calories per Kg. of Body Weight	Food Nitrogen per Kilo of body weight
			Nitrogen in Urine	Nitrogen in Feces	Total Nitrogen Excreted	Nitrogen in Food	Nitrogen Balance							
			gms.	gms.	gms.	gms.	gms.	gms	gms	gms.	Kgs.			gms.
1.	Jan. 15-26	12	6.14	1.54	7.68	10.43	+2.75	+33.00	34.82	**—1.82**	64.1	1991	31.2	0.163
2.	Jan. 27-Feb. 2	7	4.75	1.52	6.27	5.63	—0.64	—4.48	22.81	**—27.29**	63.3	1850	29.3	0.089
3.	Feb. 3-9	7	4.24	1.36	5.60	4.90	—0.70	—4.90	19.97	**—24.87**	61.9	1850	29.5	0.079
4.	Feb. 10-16	7	3.97	1.70	5.67	5.16	—0.51	—3.57	19.97*	**—23.54**	59.5	1850	31.2	0.087
5.	Feb. 17-23	7	3.76	1.46	5.22	4.67	—0.55	—3.85	13.66	**—17.51**	59.1	1750	29.6	0.079
6.	Feb. 24-Mar. 2	7	3.96	1.24	5.20	7.46	+2.26	+15.80	12.60	**+3.20**	58.1	2036	35.0	0.128
7.	Mar. 3-9	7	5.72	1.44	7.16	8.68	+1.52	+10.64	8.94	**+1.70**	58.8	2036	34.6	0.148
8.	Mar. 10-16	7	5.74	1.60	7.34	8.43	+1.09	+7.63	11.37	**—3.74**	59.1	2023	34.3	0.143
9.	Mar. 17-23	7	5.85	1.27	7.12	8.93	+1.81	+12.67	5.40	**+7.27**	59.7	2075	34.7	0.150

*Assumed value, scales being lost.

TABLE B—Protein Metabolism of Patient No. 2

1.	Mar. 26-Apr. 13	19	7.58	1.55	9.13	11.38	+2.25	+42.75	none	**+42.75**	69.9	2260	33.8	0.163
2.	Apr 14-20	7	4.59	1.35	5.94	5.19	—0.75	—5.25	none	**—5.25**	67.5	1955	29.0	0.077
3.	Apr. 21-30	10	3.46	1.36	4.82	4.71	—0.11	—1.10	none	**—1.10**	67.1	2675	39.8	0.070
4.	May 1-10	10	2.68	1.26	3.94	3.35	—0.59	—5.90	none	**—5.90**	66.4	3140	47.3	0.050

TABLE C.—Patient No. 1

Period	Date, 1914	No of Days	DAILY AVERAGE						PER CENT OF TOTAL URINARY NITROGEN		
			Total Nitrogen gms	Urea Nitrogen gms.	Ammonia Nitrogen gms	Uric Acid Nitrogen gms.	reatinine Nitrogen gms.	Rest Nitrogen gms.	Urea Nitrogen	Ammonia Nitrogen	Rest Nitrogen
1.	Jan. 17-26	10	6.24	4.39	0.209	**0.194**	0.448	1.00	70.3	3.37	**16.1**
2.	Jan. 27-Feb. 2	7	4.75	2.97	0.224	**0.204**	0.422	0.93	62.5	4.70	**19.6**
3.	Feb. 3 5 8-9	5	4.50	2 58	0.207	**0.211**	0.407	1.095	57.5	4.60	**24.3**
4.	Feb 10-12 15.16	5	4.45	2.85	0.191	**0.197**	0.385	0.827	64.0	4.30	**18.6**
5.	Feb. 17-23	7	3.76	2.22	0.201	**0.183**	0.348	0.80	59.2	5.35	**21.3**
6.	Feb. 24-Mar. 2	7	3.96	2.34	0.215	**0.160**	0.334	0.91	59.2	5.45	**22.9**
7.	March 3-9	7	5.72	3.96	0.331	**0.193**	0.344	0.89	69.4	5.80	**15.5**

TABLE D.—Patient No. 2

	March 26-April 13	19	7.58	5.72	0.414	**0.147**	0.505	0.794	75.5	5.48	**10.45**
	April 14-20	7	4.59	*3.18	—	**0.146**	0.480	0.784	*69.3	—	**17.10**

*Urea and Ammonia

TABLE E—Protein Metabolism of Psoriasis Patient

Period	Date, 1913	Number of Days	Nitrogen in Urine	Nitrogen in Feces	Total N Excreted	Nitrogen in Food	Nitrogen Balance	Nitrogen in Scales	Patient's Average Weight	Calories per Day	Calories per Kg	Calories per Sq Meters of Surface	Urinary N per Kg. of Body Weight	Food N per Kg. of Body Weight
1	Apr. 23-Apr. 29	7	34.62	4.67	39.29	47.90	+ 8 61	4.95	63.1	1439	22.8	738	0.0784	0.1084
2	Apr. 30-May 6	7	30.80	7.05	37 85	42.55	+ 4.70	8.23	60.64	1150	19.0	606	0.0726	0.1001
3	May 7-May 13	7	25.26	6.40	31.66	49.59	+ 17 93	11.20	58.82	1553	26.4	835	0.0614	0.1204
4	May 14-May 20	7	20.29	14.03	34.32	52.45	+ 18.13	8.83	58.5	2124	36.5	1151	0.0496	0.1281
5	May 21-May 29	9	28.41	12.16	40.57	70.21	+29.64	16.42	58.15	2 92	39.4	1241	0.0543	0.1342
6	May 30 June 5	7	13.16	13.78	26.94	30 70	+ 3.76	8.75	58.4	1866	32.0	1009	0.0322	0.0752
	Total	**44**	**152.54**	**58 09**	**210.63**	**293 40**	**+82.77**	**58.38**						

No relationship was found to exist between the retention or loss of nitrogen and the weight of the patients. Patient NUMBER 1, for instance, lost considerable weight during the first periods, while at the same time a gain of nitrogen occurred; the same patient during certain periods, lost large amounts of body nitrogen without any change in weight. Patient NUMBER 2 retained nitrogen throughout the entire period of observation, yet lost in weight. In our studies of psoriasis we called particular attention to this same disproportion between nitrogen retention and change in body weight.

CLINICAL DISCUSSION.

CASE 1 was kept on a low nitrogen diet for five weeks without observing any influence upon the course of the eruption or upon the associated itching.

CASE 2, on the other hand, was markedly benefited under a low nitrogen dietary and placed in a condition better than he had been in twenty months.

A hasty consideration of these results might convince one of the discrepant influence of a low nitrogen diet in eczema. But a more careful study of these two cases, from various points of view, leads to some most interesting and suggestive deductions.

In the first place it is obvious to any one who reads the description of the eruption and histories of these patients that these two individuals were suffering from separate and distinct diseases. In the still incomplete state of our knowledge of eczema, we are unquestionably placing in this category a variety of disorders having certain symptons in common, but which are diverse and distinct in their ætiology and essential nature.

CASE 1 was an ignorant laborer, lacking all self control, who had a dermatosis of two months' duration, which began as chapped hands while working in the cold, and which continued to grow worse under the influence of unrestrained scratching. There was never any vesiculation or serous exudation, but merely redness, scaling and thickening of the skin. We firmly believe that this condition is not a true eczema but a chronic dermatitis due to external irritation. Authorities, to be sure, class such cases as eczema, but we submit that there is more evidence against the inclusion of such an affection in the group of eczema, than there is in favor of it. Dermatologists, however, are

appalled by the difficulties involved in the exclusion of this and many allied forms of acute and chronic dermatitis, difficult to differentiate and, as a result, they adopt the simple method of employing a group designation.

Case 2 was a man, 20 years of age, who suffered from outbreaks of an eruptive disorder since the age of two years. For the greater part of his life he has been subject to a skin trouble whose chief characteristics were vesicle formation, surface exudation and itching. The eruption would develop suddenly and on rare occasions, was preceded by chilliness and fever, an unusual phenomenon.

In its essential features this affection is eczema, in its orthodox sense, a boiling over. There can be no doubt that this disease in this patient is of systemic origin. It is obviously not a skin affection of external causation.

So much for a differentiation of the histories and symptomatology of these two cases. Their metabolic study reveals just as marked differences.

Case 1 was unable to maintain a nitrogen balance on a low nitrogen diet (4 to 5 grams a day). During a period of 40 days he lost 87 grams of nitrogen. Although the large amount of scaling and loss of epithelium suggested a condition similar to that which occurs in psoriasis, his nitrogen metabolism was quite unlike that which occurs in this disease, for psoriatic patients retain nitrogen even on a low nitrogen diet.

Case 2, on the other hand, retained nitrogen on a low nitrogen dietary and presents a metabolic picture like that of psoriasis patients, although clinically, of course, there was not the slightest resemblance.

It is a most significant and interesting observation that a prolonged low nitrogen diet exerted no favorable influence at all on Case 1, *who showed no nitrogen retention, but on the contrary, did markedly benefit* Case 2, *who gave evidence of a pronounced nitrogen retention.* The improvement was gradual and progressive, quite like that observed in psoriasis patients. We recognize the fact that many dermatologists are skeptical concerning the favorable influence of a low protein diet in psoriasis. They may, however, demonstrate the influence of such a diet by keeping patients in a hospital on a diet containing 4 grams of nitrogen per day. In three weeks or less, the effect upon a psoriasis eruption will be evident.

From the point of view of history, symptomatology, metabolic

picture and response to dietary treatment, the two cases above described are distinct and different.

It may be of interest to add that CASE 1 was completely cured later by the use of an ointment containing oil of cade. CASE 2 had always been, in large part, resistant to external medicaments. No photograph of CASE 2 is presented, because the eruption did not lend itself to photographic reproduction.

PARTITION OF THE URINARY NITROGEN.

The nitrogen found in the human urine represents different chemical substances of which the most important are urea, ammonia, uric acid and creatinine. The difference between the total nitrogen and the nitrogen of all these substances combined is usually designated as "rest nitrogen."

The opinion has been expressed by several investigators that there is in eczema, as well as in certain other eruptive disorders, a disturbance in the elimination of urea.# Johnston and Schwartz have recently found that the elimination of "rest nitrogen" in eczema and certain other skin diseases, is increased during the days immediately preceding the outbreak of the eruption. We have thought it of interest, therefore, to study, in cases of eczema, the elimination of the important nitrogenous constituents of the urine.

The elimination of urea in normal individuals stands in definite relationship to the elimination of total nitrogen. In a 24 hours' specimen of urine containing about 10 or more grams of nitrogen, there is found about 80 to 90 per cent. of it in the form of urea. If less total nitrogen were eliminated, the percentage of urea would decline; this, indeed, may reach such a low level as 50 per cent. In formulating, therefore, any conclusions as to the elimination of urea, it is essential to carefully consider the amount of total nitrogen eliminated.

Patient NUMBER 1 eliminated, during the first period, on an average, 70.3 per cent. urea, the total nitrogen being 6.24 grams. This value is somewhat lower than normal if compared with 76.4 per cent. urea and 6.16 grams of total nitrogen excreted by a normal individual, who served as a control in our previous studies.^ The difference,

#JOHNSTON AND SCHWARTZ. Studies in the Metabolism of Certain Skin Diseases. *New York Med. Jour.*, Mar. 13 to 20, 1909.

^SCHAMBERG, KOLMER, RINGER AND RAIZISS. Protein Metabolism in Psoriasis. *Jour. Cuta. Dis.*, Nov., 1913, p. 68.

however, is too small to permit of any definite conclusions. In the second, third and fourth periods, the patients eliminated, respectively, 62.5 per cent., 57.5 per cent. and 64.0 per cent. The diminution is undoubtedly due to the decline of the total nitrogen output. A further decline in the total nitrogen output during the fifth and sixth periods caused a still smaller elimination of urea, represented by figures 59.2 per cent. The rise in the total nitrogen in the seventh period resulted in a relatively higher elimination of urea, 69.4 per cent.

That the retention of nitrogen in these cases of eczema was not due to renal insufficiency, was further proven by an examination of the patient's blood. It has been recently shown by Folin and Denis[°] that 100 cc. of blood normally contained from 22 to 26 mgs. of so-called "non-protein nitrogen." In cases of renal insufficiency, when the end products of protein catabolism are eliminated incompletely, the non-protein nitrogen of the blood is greatly increased. We have made a number of blood examinations in cases of eczema and psoriasis and in no one case were we able to find any increase in the non-protein nitrogen. It is evident, therefore, that the retention of nitrogen in psoriasis and in eczema is not the result of renal disturbances. On the whole, the elimination of urea in patient NUMBER 1 may be regarded as representing the lower limit of a normal elimination.

The output of ammonia was normal, fluctuating between 3.4 per cent. and 5.8 per cent. The same can be said of creatinine, which was normal during the first period and declined during the subsequent periods. This decrease was due to the creatin and creatinine free diet on which the patient was kept during the entire experiment.[=]

The elimination of "rest nitrogen" in normal individuals represents about 5 to 10 per cent. of the total nitrogen on a normal diet and 10 to 15 per cent. on a low nitrogen diet. Patient NUMBER 1 showed an increased "rest nitrogen" elimination during almost the entire period of observation. On a normal diet he excreted, on an average, as much as 16.1 per cent. Higher figures were found in other periods, except during the seventh, when it declined to 15.4 per cent. There can be no doubt that these figures indicate deviation of the metabolism from the normal. Whether this disturbance in metabol-

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°*Jour. Biol. Chem.*, 1913, xiv, p. 33.

=This phenomenon was observed by us in certain previous observations. See A. I. Ringer and G. W. Raiziss on "Excretion of Creatinine by Human Individuals on a Prolonged Creatinine Free Diet." *Jour. Biol. Chem.*, 1915, xix, p. 487.

ism can be associated with eczema, it is impossible to say. A large number of cases must be examined before any conclusion can be reached.

Our second case of eczema exhibits a normal urea output, which on a normal diet averaged 75.5 per cent. and on a low nitrogen diet 69.3 per cent. The ammonia which was determined only during the first period, appeared to be normal; namely, 5.5 per cent. The excretion of creatinine was also normal. The elimination of "rest nitrogen" reached, on an average, 10.45 per cent. of the total nitrogen on a normal diet and 17.10 per cent. on a low nitrogen diet; these figures are fairly normal.

In order to test the eliminative power of the kidneys, patient NUMBER 1 received on two occasions, 20 grams of pure urea, per os, and in both instances the greater part was eliminated in the first 24 hours, and the rest during the second day. Thus it was established that the elimination of nitrogen by the kidneys was not disturbed.

URIC ACID METABOLISM.

For many years much attention has been paid to the elimination of uric acid in patients suffering from various diseases of the skin. Many clinicians have expressed the opinion that certain types of eczema were caused by faults in the uric acid metabolism. We therefore deemed it advisable to study the elimination of uric acid in the cases of eczema under consideration. The patients were placed on a strictly purin free diet for a long period of time and the uric acid output was daily determined. Researches on the question of uric acid metabolism indicate that there are two sources of uric acid elimination in the urine. The ingestion of animal food which contains purin bodies gives rise to a considerable elimination of so-called exogenous uric acid. When, however, individuals are kept on milk and vegetable foods containing but small amounts of purin substance, the chief source of uric acid is the body itself. This uric acid is called "endogenous." Normal individuals show a constant daily output of endogenous uric acid, provided they are in a condition of rest. Expressed in terms of nitrogen, the normal endogenous elimination of uric acid is from 100 to 130 milligrams per day.

It was found by us that under a prolonged régime of purin free diet, and under conditions of physical and psychic rest, as for instance

are secured by a hospital sojourn, the amount of endogenous uric acid eliminated was approximately the same in different individuals, seldom exceeding 100 milligrams of nitrogen.[1] The endogenous uric acid in gout is irregular. Periods of low uric acid output, when the acid is retained, are followed by periods of high uric acid elimination, representing a washing out of accumulated urates.

High endogenous uric acid excretion is also observed whenever there is an increased break down of tissue or cell material, as for instance occurs in fever or when leucocytosis is present.

Patient NUMBER 1 showed a high endogenous uric acid excretion throughout the entire experiment. While the daily elimination fluctuated, the averages for different periods were uniformly high; for instance, in the first period we noticed a daily average of 0.194 grams of uric acid nitrogen; in the second period 0.204 grams, in the third period 0.211 grams, in the fourth period 0.197 grams, in the fifth period 0.183 grams, in the sixth period this value decreased to 0.160 grams, again rising to 0.193 grams in the following period. Compared with normal individuals, the amount of uric acid eliminated by patient NUMBER 1 was almost twice as much. The excessive elimination of endogenous uric acid during many weeks does not indicate in any way that this case of eczema was related to gout but rather suggests a process of break down of cellular material. It may have been associated with the inflammatory changes of the skin and the rapid proliferation of epithelial cells and exfoliation of scales.

Patient NUMBER 2 exhibited also an increased elimination of endogenous uric acid but this was not as high as in patient NUMBER 1. During the three periods it was 0.145 grams daily and this declined to the normal figure in the fourth period of observation, at which time it was 0.104 grams.

The diminution may possibly be attributed to the marked improvement in the patient's skin.

It has recently been shown# that the blood of gouty individuals contains a considerably larger amount of uric acid than occurs in normal subjects. The examination of the blood of our patients did not reveal any increase of the uric acid content and thus further supported our contention that in the cases of eczema studied by us the disturbance of the uric acid metabolism was not indicative of gout.

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[1] RAIZISS, DUBIN AND RINGER. Studies in Endogenous Uric Acid Metabolism. *Jour. Biol. Chem.*, 1914, xix, p. 473.

#FOLIN AND DENIS. *Jour. Biol. Chem.*, 1913, xiv, p. 40.

Conclusions.

1. Two cases of generalized inflammatory dermatoses, ordinarily designated by dermatologists as eczema, were studied by us. We feel confident that one was a case of chronic eczematoid dermatitis of external origin, and we believe that such cases should be excluded from the category of eczema. This case differed in its history, ætiology, symptomatology, metabolic picture and response to treatment from the case of eczema of systemic origin.

2. The patient suffering from chronic dermatitis failed to maintain a nitrogen equilibrium on a low nitrogen diet, and did not exhibit a true nitrogen retention at higher levels. He likewise failed to show any improvement whatsoever on a low protein diet.

3. The patient with eczema of systemic origin exhibited a true nitrogen retention, and exhibited marked improvement on a low protein diet.

4. The patient with chronic dermatitis eliminated "rest nitrogen" in distinct excess of normal for a long period of time.

5. The elimination of "rest nitrogen" in the case of eczema did not exceed the maximum normal limits.

6. The elimination of creatinine in both patients was normal.

7. Both patients exhibited an increase in the elimination of endogenous uric acid, the case of chronic dermatitis showing the higher figures. The uric acid content of the blood, however, was normal. The increased uric acid output is not to be interpreted as an indication of gout, but doubtless bears some relation to the leucocytic deposits in the skin with perhaps absorption of some of the products of the same.

THE HISTOPATHOLOGY OF HYPERIDROSIS CIRCUMSCRIPTA.

By Richard L. Sutton, M.D., Kansas City, Mo.

While the existence of sweat nerves, as demonstrated by the experiments of Goltz[1], Langley[2] and others, is now generally conceded, the occurrence of abnormal histologic changes in hyper-active coil glands is still a matter of controversy. Virchow[3], in his researches on the symptomatic hyperidrosis of pulmonary tuberculosis, noted the presence of both hypertrophy and fatty degeneration of the glandular structures. A few years later, Robinson[4], while investigating the histopathology of hyperidrosis manuum, found no appreciable alteration of the sweat apparatus in the affected areas.

Recently I had opportunity to study an example of hyperidrosis circumscripta in which the symptomatology was so striking in character and the anatomic changes so well marked, that the case report is worthy of record.

Case Report.

The patient was an Italian laborer, aged 28 years, referred to me by Dr. W. W. Duke, of Kansas City. His general appearance was that of a rugged, powerful man. He claimed, however, that his health had never been good and his history during the past decade was that of a confirmed neurasthenic.

Aside from the diseases of childhood, and one attack of gonorrhœa, he had never experienced a serious illness. There was no record of trauma. Syphilis was denied. The disorder from which relief was sought had been present eight years, and had reached its present stage within a period of a few weeks after the onset. Since then it had persisted with but little change.

The affected area measured about 8 by 18 cm. in extent, and was located in the left sub-scapular region. The sweating was more excessive in cold weather, but an attack could be precipitated at any time by fright, worry, or excitement. The phenomenon was not under the control of the patient's will, as in the case described by Marmé[5].

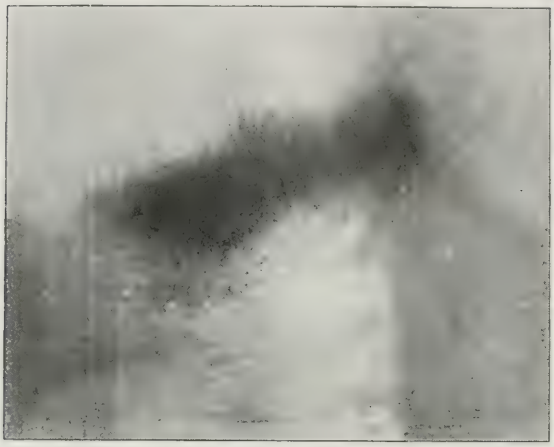
Following the administration of pilocarpine, general hyperdrosis occurred, but the glands in the affected region were far more active than those on other parts of the body. On one occasion, during the course of a physical examination, more than 9 cc. of sweat exuded from the affected area within a period of five minutes. The patient was not under the influence of any drug at the time, and the temperature of the room was 60°F.

Neither blood nor urine exhibited abnormal changes. A serum test gave a negative result. There was no reaction to tuberculin. No tenderness could be elicited by pressure along the course of the spine and an X-ray examination failed to reveal any changes or deformities in the bony structures in this region.

For laboratory study, four small pieces of tissue were excised from the affected area and four others from the corresponding normal area in the right sub-scapular region. The material was fixed in formalin, sectioned in a freezing microtome and stained by various methods.

The epidermis was unaffected and the sebaceous glands exhibited no alterations. The connective tissue in the vicinity of the coil glands and ducts stained well and, aside from occasional circumscribed areas of round-celled infiltration, the intermediate structures appeared normal. The cellular exudate was most marked in the immediate vicinity of the coil glands and these structures were greatly increased in size—in many instances the diameter of the coils being almost twice that of the tubules in the normal specimens employed as controls. The blood vessels likewise exhibited hypertrophic changes. The lumen of the enlarged glands was dilated and the epithelia somewhat larger than normal. Numerous mitoses were present. The ducts also were increased in size, although comparatively smaller than the active portion of the appendage. With the exception of the hypertrophy, the typical architecture of the glands was unchanged. There were no signs of fatty degeneration.

The microscopic findings in this case would indicate that in some instances, at least, as Virchow has stated, long continued localized hyperidrosis may result in, or be accompanied by, hypertrophy of the coil glands in the involved areas.



Showing location and extent of affected area on the back. The dark substance is lead pencil dust, which was dusted on the moist surface in order to define it more clearly. Note the two droplets of perspiration.

PHENOL.

By Douglass W. Montgomery, M.D., San Francisco.

Carbolic acid applied locally acts as a caustic, an antiseptic, an analgesic, an antipruritic and a decolorizer of pigmentary discolorations, such as freckles. Its caustic action may sometimes extend to being escarotic, but usually attendant circumstances, such as enclosure under a bandage, must be present in order for it to do so. Carbolic acid when applied over a large surface may, by absorption, cause the constitutional symptoms of phenol poisoning.

As a Caustic.

Occasionally I have painted pure carbolic acid on patches of psoriasis and sometimes with good effect. On Feb. 5, 1916, I painted a number of patches in this way on the back of a patient. The painted patch turned white, with a red blush about it, as it usually does. In about a week the patient returned. The application had given rise to a violent reaction in each patch and in one of them there was a deep, steep edged, suppurative lesion with a heavy crust, which I feared might leave a scar, but which fortunately did not. After the reaction subsided the psoriasis reappeared in each patch.

Painting with pure carbolic acid has been recommended in a great number of cutaneous affections, and I have employed it frequently in alopecia areata, lupus erythematosus and psoriasis, but the instance above mentioned was the only one in which it acted as a violent caustic.

As before mentioned, carbolic acid is employed, painted on pure, for the removal of pigmented spots on the skin, such as freckles. I have never used it in this way, but recently I had an interesting experience. A woman called at the office seeking relief for discoloration following this employment of phenol. She had consulted a dermatologist in a distant city, who had touched some freckles on the back of her hands with some liquid he had on his desk. She returned for another treatment and the physician being absent, his associate saw her, and asked what had been done. She informed him by pointing out the bottle containing the fluid employed. He

repeated the process and explained it to her, saying that she might do it herself when necessary. This she did, but forgot to wash off the carbolic acid with alcohol and hence the excessive action and discoloration, which was only inflammatory, that brought her to me.

In this case, while examining the spots with a lens, I made a curious observation. Over each spot treated the epithelium was dead white and densely hyperkeratotic, resembling a fleck of porcelain. It may be that in freckles or other deep seated pigmentary spots this dense white hyperkeratosis hides the subjacent pigment. If so the result would be temporary. As soon as normal keratinization would take place, the light rays would pass through, and the "blemish" would reappear. In any case in which the discoloration is due to seborrhœic keratoses, and therefore in which the pigment is in a great measure in the superficial layers of the epithelium, the amendment would be more permanent. Of course, this would be better treated with trichloracetic acid.

Some time ago surgeons used pure carbolic acid, followed by washing with alcohol, for disinfecting their hands. For the skin of many people this was too strenuous a procedure, and other antiseptics have been found equally effective and not so detrimental.

On another occasion a Scotch woman called, expressing great delight at seeing me, and saying that in my early days of practice I had befriended her by securing her employment as a nurse. She then told me she had failed to achieve a living in San Francisco and had gone to Los Angeles, where she had been equally unfortunate. She then tried chicken ranching, which also proved a failure. After this she went to New York, where by some means she secured rooms on Fifth Avenue, and put out her shingle as a "Beautifier." From then on the road had been smooth "wi' lots o' munny."

In a burst of confidence she divulged to me her sole remedy, carbolic acid. She painted it on, and then covered the spot with the vitelline membrane of an egg. She did not know anything of the construction of the skin, nor could I find from her what lesions she treated in this way. She only knew that she applied this remedy in this way to "blemishes," and that thereby she was gaining a good living.

Whether absolutely truthful, her story was interesting, but one would imagine that in neglecting to wash off the phenol with alcohol and in applying a closed dressing she would get occasional disagreeable accidents.

At one time strong watery solutions of carbolic acid were employed, injected hypodermically, directly into deep infective processes such as erysipelas. Hydroceles were also treated by throwing liquil phenol into the sack after draining out the serum. The consequent plastic inflammation closed the sack. In a like manner phenol was used for hæmorrhoids.

One of my first cases on beginning practice was a woman, who got an extensive and very painful ulceration of the anal opening and rectum, through being treated for hæmorrhoids with phenol injections by a quack. I have never forgotten the incident, because it was very remunerative at a time when I needed sustenance.

When enclosed in a dressing, gangræne, from carbolic acid is not so infrequent, and because of its insidious course deserves especial mention. As there is no pain, because of the analgesic action of the drug, the patient has no warning. Many cases of complete loss of a finger have occurred from a preparation not at all commonly regarded as being dangerous. This sad accident is said to be especially apt to occur if the phenol is not completely dissolved in the solution and it is to facilitate this solution that it is advised to always add glycerine to the mixture. It is also for this reason that the glycerite of phenol (phenol 20, glycerine 80) has been made official. Besides facilitating the solution it is said to lessen the caustic action on the skin, but will not prevent the production of gangræne or the absorption of the phenol[1].

Camphor possesses the curious property of combining with phenol and forming a liquid and in this combination the phenol loses its causticity and may be employed with impunity, for instance, in swabbing out the throat.

For obvious reasons this form of gangræne has occurred most frequently following the application of watery solutions. It may occur, however, when the carbolic acid is incorporated in an ointment. For instance, O. F. Schussler and M. A. Stone have reported an instance of gangræne of the finger following the use by a druggist of a five per cent. carbolic acid ointment under a closed dressing.[2]

Ointments of this strength, however, may be employed with impunity if not confined under a dressing, or not spread over too large

[1] Wilbert, Martin I. Some Fallacies Regarding Phenol. Public Health Reports, Washington, D. C., Apr. 28, 1916.

[2] Schussler, O. F. and Stone, M. A. Gangræne of Finger Caused by 5% Phenol Ointment. *Jour. Amer. Med. Assn.*, Aug. 19, 1911, p. 628.

a surface. For instance, Sequeira recommends a twenty grain to the ounce ointment to relieve the itching of lichen planus.[3] As in lichen planus, and especially in the very itchy cases, the eruption may be very widespread, the patient should be admonished of the danger of using the ointment too extensively. The warning is all the more necessary because the ointment may relieve the itching, which is frequently acutely tormenting, constituting a pressing temptation to extend the use of any remedy found at all helpful.

Another disagreeable feature of carbolic acid is its odor, particularly obnoxious to some people. This, however, does not prevent the popular use of carbolated vaseline (unguentum phenolis), possibly the most widely used of all household ointments. Although it is only of three per cent. strength, accidents may happen with it, and therefore it is necessary that the physician should keep it in mind.

As An Antipruritic.

There is no doubt that phenol is an excellent antipruritic in one-half to two per cent. strength, which may be employed in those eczemas in which itchiness is a distressing symptom. As before indicated, the dressing must not be too occlusive, and it must not be employed over a very extensive surface, especially if the horny protective layers of epithelium are deficient, as in weeping eczema.

When in the treatment of eczema it is desired to employ a solution and at the same time to avoid the use of the monoxybenzol, carbolic acid, the dioxybenzol, resorcin, may be prescribed. It, too, must be used in weak solution and it is not altogether devoid of danger, as it sometimes acts with unexpected severity, and may by absorption cause alarming constitutional symptoms or even death. Neither carbolic acid, however, nor resorcin at all equal liquor carbonis detergens as a soothing antipruritic, especially when the latter is combined with lead water as in the well known Hutchinson's lotion. Here again, the good effect depends to a great extent on the weakness of the solution:

℞
Liq. plumbi subacetatis 15.00
Liq. carbonis detergentis 75.00
M.
Sig. A teaspoonful in a pint of hot water as a lotion.

This is an excellent antipruritic, and acts soothingly and kindly

[3] Sequeira, J. H. Diseases of the Skin, 1915, p. 463.

on the skin, favoring epithelialization, and I have never seen it act poisonously, either locally or constitutionally. I have had the patients, in rare instances, complain that in this strength it caused "burning." This may usually be overcome by further dilution, using a teaspoonful to a quart instead of to a pint of hot water.

Just as this Hutchinson's lotion is superior to watery solutions of carbolic acid or resorcin in the treatment of eczema, when a lotion is required, so is camphor, especially when combined with carbonate of lead, superior to carbolic acid or resorcin when it is desired to prescribe an ointment. Neither camphor nor its allied substance, menthol, may be prescribed as solutions in eczema because of being insoluble in water. The alcholic solutions, naturally, cannot be used.

We here touch upon one of the most interesting subjects in the treatment of diseases of the skin, the comparative neglect of camphor. The allied substance, menthol, sometimes called domestic camphor, is much more frequently mentioned, yet it never acts so soothingly or kindly or even antipruritically as Japanese or common camphor.

As an Antiseptic.

Occasionally in impetigo contagiosa there is a good deal of pruritus which favors autoinfection. Sutton advises the addition of 1 per cent. of carbolic acid to an ammoniated mercury ointment in this contingency.[4] The ointment would read:

℞

Phenol	grs. vii
Ung. Hydrarg. ammon.	℥ ss
Ung. Zinci ox.	℥ 1

M.

I am inclined in such a situation to employ that preparation of cresol called lysol, in two per cent. strength.

Jackson recommended using phenol to abort furuncles, by dipping a toothpick into the liquid and boring it into the suppurative top of the lesion. I never was favorably impressed with the treatment.

As an Analgesic.

A. Rundle Short says that carbolic acid rather increases the sensitiveness to painful stimuli.[5] I rather doubt this. A medical friend

[4] Sutton, Richard L. Diseases of the Skin, 1916, p. 274.

[5] Short, A. Rundle. The Newer Physiology, 1915, p. 243.

acquired a chancre of the finger near the nail, and suffered from it all the agony of a felon until he applied a 1 to 20 carbolic dressing. He said he felt as if the serenity of heaven had passed over him and he never grew tired of expressing the sense of relief he experienced.

The clear oily or acicular crystalline substance obtained from coal tar that is called carbolic acid is also called phenyl alcohol or phenol. In its nature it is both an alcohol and an acid. The root *phen* or *phæn*, from the Greek Φαιυο, shining, was first used by the French chemist, Laurent, in 1841, as hydrate of phényle and acid phénique, names which he applied to this substance afterward called phenol. The root *phen* did not indicate that the substance was shiny, but referred to the fact that it was a coal tar product, arising from the manufacture of illuminating or "shining" gas.

AN UNUSUAL VARIETY OF VITILIGO ("LEUCODERMA ACQUISATUM CENTRIFUGUM")

By J. B. Shelmire, M.D., Dallas.

Vitiligo, or leucoderma circumscriptum, is a comparatively common disorder. Achromia may develop following pressure (Shepherd[1]), burns (Lecat[2]), surgical operations (Alibert[3]), or ulceration due to syphilis (Sutton[4]). As ordinarily encountered, the lesions of vitiligo present no anatomic changes other than absence of pigment.

Under the title of "Leucoderma acquisatum centrifugum," Sutton[5] has described two cases of vitiligo in which the appearance of the leucodermic patches was preceded by the development of minute, circumscribed, brownish maculo-papules, which superficially resembled small nævi, but which were characterized histologically by the presence, throughout the corium, of masses of tissue of endothelial origin. The whitened areas were rounded or oval in outline, and from 5 to 20 cm. in diameter. As a rule, the small, brownish, maculo-papules persisted exactly in the centre of the leucodermic patch.

Recently I have encountered two examples of vitiligo in which the symptomatology was identical with the cases mentioned.

Case Reports.

Case 1. Mr. N., aged 20 years, came under observation in October, 1915. His personal and family history were good, except that he had a slight hare-lip. He was vaccinated three years ago. The spot continued to scab and scale for some months. From that time to twelve months ago, nothing unusual was noticed. Then the scar began to lose its color. At about this time he noticed a small white spot above the vaccination mark. This mark is nearly the size of a dime and devoid of pigment. Just above is a smaller depigmented area, round and with a small, central, flat pigmentation. A biopsy was made before the photograph was taken of these two lesions. About ten months ago, he noticed that the hair and skin were becoming white in two small, round areas over the right temple, with central brown spots. About eight months ago, he discovered the larger lesion on the back. The spots on the temple are round, the size of a dime and have a central pigmented spot, resembling a mole. On the back, there are eleven spots, oval or round, split-pea to a silver quarter in size. The largest is over the left lumbar region, oval and about one inch in the longest diameter. In the centre is a raised, pigmented papule of a brownish color. In the interscapular region are three round areas with central pigmentations. There are no central spots in the other lesions on the back. There are a few split-pea size lesions on the chest, with no central spots. On the scrotum, and on the dorsal surface of the penis and mucous surface of the prepuce, there are dime-size, rounded lesions with no central spots. There is no increased pigmentation beyond the borders of any of the spots. There are no subjective symptoms. The lesions which have appeared within the past five months have no central pigmentation.

Histologic Report by Dr. J. H. Black.

"The sections referred to me present the following picture:

"There is considerable thickening of the stratum corneum. The prickle cells are increased and the basal cells show occasional mitotic figures. There is increased pigment production. The papillæ are usually increased markedly

in size, becoming quite wide. There is considerable congestion of the blood vessels, both superficial and deep. There is a moderate amount of perivascular infiltration of round cells. Lymph spaces are prominent. The round cell infiltration of the derma is slight. Deeper than the area of inflammatory reaction, are found large masses of cells which are large, ovoid, showing prominent nuclei, and staining deeply. These are apparently endothelial in type. These cells are found surrounding the vascular spaces as well as generally throughout the derma. They bear no relation to the glandular structures which are apparently normal. There is no resemblance to nævoid tissue in these sections. I have had the pleasure of studying the sections from the cases reported by Dr. Sutton and find similar pictures. Histologically they are identical."

Case 2. Mr. G., aged 26 years, was referred by Dr. Carlisle, of Dallas, August 8th, 1916. There were four leucodermic spots, round or oval, split-pea to nearly a dime in size, with the central pigmented maculo-papules in three. The smallest lesion was on the right side of the forehead, not quite the size of a split pea with a pin-head sized, pigmented spot. This appeared several years ago. The patient was not aware of the existence of the other lesions. There were three rounded, dime-sized lesions, one over the left scapula, one on the right side of the abdomen and one on the inner surface of the left thigh, opposite the scrotum. The one over the abdomen was without central pigmentation. As in Case 1, there was no hyperpigmentation beyond the borders of the spots. There were no subjective symptoms.

References.

[1] Shepherd. Morrow's System, New York, 1895, iii, p. 459.
[2] Lecat. Cited by Hebra, Diseases of the Skin, Sydenham Trans., London, 1874, iii. p. 180.
[3] Alibert. Cited by Hebra, *loc cit.*
[4] Sutton. Trans. Dermat. Sec., *Amer. Med. Assn.*, 1916.
[5] Sutton. Diseases of the Skin, St. Louis, 1916, p. 438.

Fig. 1.
Showing lesions on the back.

Fig. 2.
Showing lesions on the arm.

PLATE VIII.—To Illustrate Article on Leucoderma Acquisatum Centrifugum, by J. B. SHELMIRE, M.D.

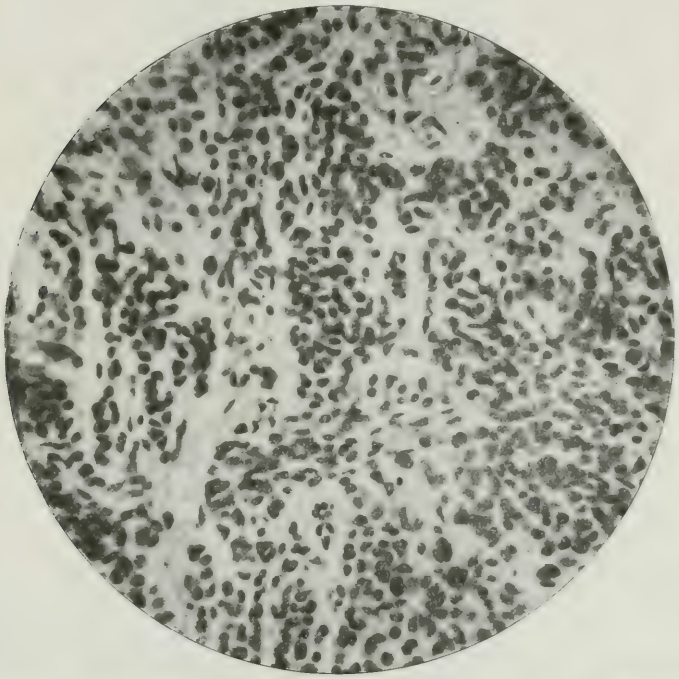


FIG. 4.

CASE 1. High power, showing character of infiltrating cells.

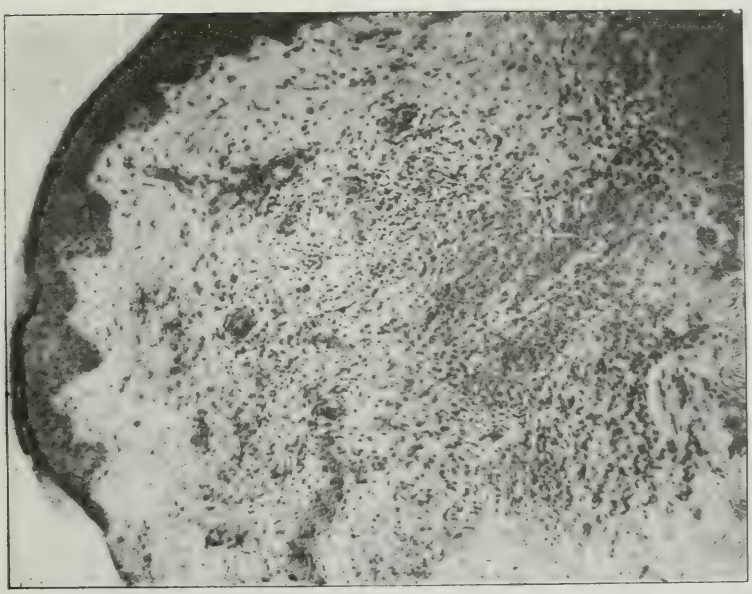


FIG. 3.

CASE 1. Low power, showing broadening of papillæ, dilatation of vessels and infiltration.

LICHEN PLANUS LINEARIS UNILATERALIS.

By J. F. Acner, M.D., Des Moines.

From the Department of Dermatology and Syphilology, College of Physicians and Surgeons, Columbia University, New York.

On May 14th, 1916, a rather anæmic, slender, nervous lad of 13 years presented himself for examination in Dr. Fordyce's service at the Vanderbilt Clinic, exhibiting streak-like patches of a peculiar dark reddish or violaceous linear eruption, affecting the skin of the right side of the neck, the right shoulder blade and the right arm. The eruption on the shoulder began at the base of the neck on the right side and extended downward and backward, then curved forward, terminating at the point of the shoulder, describing in all an irregular festoon of some 30 centimetres in length, and varying from ¼ to 2 centimetres in width. Some few centimetres below the shoulder another linear patch began, on a line continuous with the lesions just described and extended downward on the posterior aspect of the arm, to a point near the elbow. On the ulnar part of the forearm and parallel with the nerve for the entire length of the forearm on its outer aspect, there extended a third linear eruption which terminated at the wrist joint. This linear lesion on the forearm was continuous and unbroken and at no point in width exceeding one-half a centimetre. The distribution of the lesions of all these parts was entirely unilateral, and the skin was otherwise clear except for a seborrhœic patch over the right elbow joint and extending upward for a little way on the skin of the back of the arm, and a second seborrhœic patch to the right of the sternum. These patches were covered with small, adherent, greasy, yellow-colored scales. Upon close examination of the linear patches, they were found to be made up of closely aggregated, flat, angular, shiny and violaceous papules. The individual papules were polygonal in shape, with flat, glazed and slightly umbilicated summits. The papules were uniformly of a reddish to a violaceous hue. Some of them were discrete; others coalescing. On the surface of the closely aggregated papules, there could be noted, upon careful inspection, minute whitish points and lines—the typical Wickham's striæ. The patches were superficially situated on a slightly reddened base, freely movable, and sharply circumscribed.

On the occasion of our initial inspection, we were struck by the similarity of the lesions, in appearance, to that of nævus unius lateris. The violaceous color of the lesion, however, the fact that the patches were not hyperkeratotic and the history of the sudden eruption of the lesions, all within a period of three or four weeks, made the differential diagnosis a simple matter, even disregarding the subjective symptom of pruritus. The youth's family history was negative insofar as we were able to elicit it, and his personal history could not be obtained further than a record of recurrent tonsilitis and a chronic suppurative otitis media. His cutaneous condition had developed within one month. He was evidently undernourished and under pressure of unfavorable economic conditions and unhygienic environment.

He was referred to the department of internal medicine on account of diseased tonsils, adenoids and persistent discharge from the right ear. There was nothing abnormal upon the mucus membranes anywhere; no leukoplakia of the tongue. The skin on the extremities presented a well-marked mottling —a typical cutis marmorata. A biopsy was made from one of the lesions inclusive of a small portion of the adjacent normal skin, hardened in Bouin's solution and alcohol, according to the routine technique at the Vanderbilt Clinic and after cutting and mounting, the sections were stained in the usual manner.

PLATE IX.—To Illustrate Article on Lichen Planus Linearis Unilateralis.
by J. F. AUNEB, M.D.

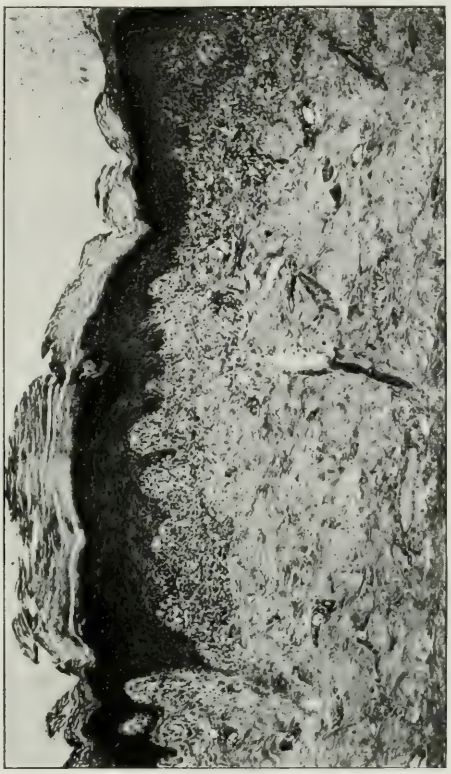


FIG. 2.
Zeiss—Planar obj. 20 mm., co. oc. 4. Hyperkeratosis; acanthosis; thickening of granular layer; infiltration of papillary body.

FIG 1.
Showing linear distribution on shoulder and arm.

HISTOPATHOLOGY.

The low power picture is that of moderate œdema of the corium, evidenced by dilatation of the blood vessels and lymph spaces and reticulation of the connective tissue elements. A dense, circumscribed cellular infiltration is noted occupying the papillary and subpapillary zone of the corium. The epidermis in places is separated from the corium beneath; in places, there occurs a disorganization of the basal cell layer due to the pressure of the œdema from below. The epidermis as a whole is thickened. The rete pegs in certain areas are smoothed out or effaced and irregular, corresponding to the papillary changes in the corium. Viewed under the high power lens, the corneous layer is seen to be thickened, reticulated and laminated. The stratum lucidum is thickened and the stratum granulosum markedly increased. In some areas the keratohyaline layer is five to seven strata of cells in width; in some places extending downward almost to the rete pegs. Keratohyaline granules are most distinct in the superficial layers. Some acanthosis of the rete mucosum is present. The prickle cells are distorted from pressure and the rete shows some interstitial œdema. Occasional hyaline degeneration is noted. The basal cell layer for the most part is disorganized from pressure œdema and round cell infiltration and in places is separated from the underlying connective tissue by small lacunæ. The papillæ are irregular, corresponding to the changes above described in the rete pegs. Some are broadened, some shortened and some effaced. The fibres throughout the papillæ are widely separated. Throughout the papillary and subpapillary zones the fibres are masked or displaced by a dense infiltration of endothelial cells and lymphocytes. No plasma cells or giant sells are in evidence. The collagen fibres in the subpapillary zone and the deeper portion of the connective tissue are swollen and œdematous. The blood vessels are dilated throughout the corium and present some evidence of accompanying perivascular round cell infiltration. Diagnosis: lichen planus.

Lichen planus was first described in 1869 by Erasmus Wilson.[1] The disorder is of frequent occurrence, though not one of the common dermatoses. The linear variety, however, is of unusual occurrence and was perhaps first mentioned by Dévèrgie,[2] in 1854, in his "Maladies de la peau." He described what is now known to have been lichen planus linearis, as *"lichen en ruban"* and he cites a case with the characteristic distribution, unilateral and parallel with the great sciatic nerve. Fordyce,[3] in 1897, described a form of lichen planus which he characterized as lichen planus hypertrophicus, a special and unique form of lichen occurring infrequently upon the extremities, in which the lesions, becoming chronic, have lost their earlier characteristics and form thickened, elevated patches. At times acuminate or horny conical papules manifest themselves. The patches may become elongated, band-like or irregular and present a reddish brown or purplish color. Galloway,[4] in 1897, gave a graphic report of a neurotic woman, 45 years of age, addicted to alcoholics, who presented what he termed a classical case of lichen planus linearis.

The eruption in this patient consisted of fine, angular, flattened, violaceous papules, distributed discretely or in groups on the left but

tock and arranged almost in a straight line, from the lower border of the gluteus muscle, downward on the inner surface of the thigh and leg, to the inner aspect of the foot. This narrow, tape-like band was ¼ centimetre in width in some areas. The papules were on a slightly reddened base and were indistinguishable from those of lichen planus. The condition was of 8 weeks' duration and had attained the maximum eruption in 4 weeks. The patient complained of severe itching. Whitfield[5] described a girl, 6½ years of age, with, a well marked parallel, linear eruption of lichen planus on the anterior aspect of the thigh, following the course of the sartorius muscle. He described these singularly anomalous parallel streaks of eruption as but ½ inch apart for their entire length and noted that they were especially resistent to treatment. Crocker[9] called attention to a woman showing a band-like, linear eruption, lichenoid in character, beginning at the vulva and extending downward and backward to the middle of the calf of the leg, apparently following the course of the small sciatic nerve. He quotes Stephen Mackenzie as showing a case of lichen planus with linear lesions along the course of the left ulnar and internal cutaneous nerves of the upper extremity. Meyer and other experienced observers have claimed an ætiological relationship between the parallel, linear distribution of lichen lesions, to that of the nerve beneath; but it is the conviction of most of our modern dermatologists, that as a matter of fact, there is no significance in a given linear eruption of lichen planus conforming to the course of an underlying nerve or along the so-called Voigt's lines; i.e., the boundaries of the areas included in a cutaneous nerve domain.

Résumé.

We have based our diagnosis upon the typical character of the individual papules above described, as well as the classical arrangement of the lesion in a narrow fillet, together with the usual distribution of the eruption, limited as it is, to the surface of one of the extremities. Moreover it occurs in an undernourished, neurotic individual who comes to us for relief from his severe itching on the affected areas. The histopathological findings corroborate our clinical diagnosis. The case is somewhat unusual, occuring, as it does, in a youth of 13 years, inasmuch as every other similar case on record, excepting that of Whitfield's, affected individuals between the fourth or fifth decade.

For his kind permission to report this case and for the privileges of the pathological laboratory, I am indebted to Prof. J. A. Fordyce. I desire, also, to thank Dr. Satenstein for his help with the interpretation of the pathological specimens and Dr. MacKee for the excellent photographs.

References.

[1] Wilson, E. *Jour. Cutan. Med.*, London, 1869, iii, No. 10.
[2] Dévergie. "Maladies de la peau," 1854, p. 449.
[3] Fordyce. *Jour. Cutan. Dis.*, 1897, xv, p. 49.
[4] Galloway. *Brit. Jour. Dermat.*, 1900, xii, p. 206.
[5] Whitfield. *Brit. Jour. Dermat.*, 1906, xviii, p. 221.
[6] Crocker. *Brit. Jour. Dermat.*, 1900, p. 427.

HYPERTRICHOSIS AND THE X-RAY.*

By George M. MacKee, M.D., New York.

To Freund[1] should be given the credit of being the first to remove superfluous hair with the X-ray; he depilated a nævus pilosus by this means. Later he and Schiff[2] reported a series of cases of hypertrichosis in which the result of X-ray treatment was more or less successful. This report was followed by similar ones by Benedikt[3], Walsh[4], Ehrmann[5], Holzknecht[6] and many others. In this country Pusey[7] was the pioneer with Allen[8] and Zeisler as close seconds.

The early workers in this field were naturally enthusiastic over the immediate results obtained, but later, when it was ascertained that it was difficult to produce a complete and permanent loss of hair and especially when it was discovered that wrinkling occurred frequently and teleangiectasia and scarring occasionally, optimism gave way to pessimism.

To-day there is a difference of opinion as to whether one is or is not justified in utilizing the X-ray to remove superfluous hair. Many dermatologists and roentgenologists—Ormsby[9], Stelwagon[10], Schultz[11], etc.—unconditionally condemn the method. Others—Pusey[12], and Tousey[13], for instance, are a little more conservative and admit the value of the procedure in selected cases. Pusey states that: "In my experience practically satisfactory results can be gotten in about half of the cases; that is, the growth of hair can be reduced to an amount which is not unsightly by repeated series of

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[1] Freund. *Wien. med. Wchnschr.*, Mar. 6, 1897, xlvii, p. 428.
[2] Freund and Schiff. *Ibid.*, 1898, xlviii, p. 1058.
[3] Benedikt. *Ibid.*, 1901, li, p. 517.
[4] Walsh. *Lancet*, 1901, ii, p. 1191.
[5] Ehrmann. *Wien. med. Wchnschr.*, 1901, li. p. 1466.
[6] Holzknecht. *Arch. f. Dermat. u. Syph.*, 1900 (Festschrift Kaposi), p. 275.
[7] Pusey and Caldwell. The Roentgen Rays in Therapeutics and Diagnosis. W. B. Saunders Co., 1904, p. 351, with bibliography.
[8] Allen. Radiotherapy, etc., Lea Brothers and Co., 1904, p. 240.
[9] Ormsby. Diseases of the Skin, Lea and Febiger, 1915, p. 1052.
[10] Stelwagon. Diseases of the Skin, W. B. Saunders Co., 1916, p. 1018.
[11] Schultz. X-ray Treatment of Skin Diseases, Rebman Co., p. 139.
[12] Pusey. The Principles and Practice of Dermatology, Appleton and Co., 1911, p. 984.
[13] Tousey. Medical Electricity and the Roentgen Rays, W. B. Saunders and Co., 1910, p. 951.

exposures which are safe; in the other 50 per cent., however, this cannot be done. The results are so uncertain and the possibilities of harm are so great, that the treatment, in my opinion, should not be undertaken except in extreme cases, or with the full understanding that if the exposures are to be kept within the bounds of safety, improvement is altogether uncertain." Most dermatologists and roentgenologists are in accord with this opinion. On the other hand, there are many more or less enthusiastic advocates of the method in Germany, France, England and the United States. Pfahler[1] has reported numerous cases where he was able to remove all or nearly all the hairs and where there was no disfigurement. He thinks that the method is indicated in selected cases. Geyser[2] gives a résumé of 200 cases of hypertrichosis treated with the X-ray over a period of six years. He admits a small percentage of bad results but insists that it is the elective treatment in cases that are not suitable for the electrolytic method.

In treating hypertrichosis of the face with the X-ray the object sought is the permanent removal of the hair with no subsequent disfigurement resulting directly or indirectly from the X-ray. In ringworm of the scalp we know that a single application consisting of H 1¼ B 10, will effect a more or less complete defluvium without the advent of an erythema. The hair falls out in three weeks and begins to grow again in from one to three months. It might be argued that this same technique could be employed in the treatment of superfluous hair of the face, but here the conditions and requirements are different so that the technique must be modified. In the first place the temporary loss of hair on the scalp is hardly ever complete unless the dose is just short of that required to evoke an erythema. In ringworm it is not necessary to effect a complete defluvium while a complete loss of hair is naturally the aim in hypertrichosis. In the second place the hair of the face requires, for its removal, as much if not more ray than is necessary to depilate the scalp hair; and this dose, while being tolerated by the scalp, cannot be applied to the more susceptible skin of the face without grave danger of an erythema, especially in young females. In other words, while it is occasionally possible to produce a fairly complete defluvium on the face by a single, well-measured dose of H 1 or H 1¼ B. 10, this amount is exceedingly likely to provoke

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[1] Pfahler. Case reports, *Jour. Cutan. Dis.*, Dec. 1916, p. 849.

[2] Geyser. A résumé of 200 cases of hypertrichosis treated with the Roentgen Ray, *Jour. Cutan. Dis.*, July, 1915, xxxiii, p. 520.

an erythema; and erythema, in hypertrichosis of the face, must be avoided, if possible, for while it leads to no untoward results in the majority of instances, teleangiectasia may subsequently develop—perhaps not for a year after the treatment. Another serious objection to epilating doses is the difficulty of distributing the quantity equally over irregular surface such as the chin, cheeks, neck, lip, etc. Of course, the surface to be treated may be divided into small areas, but then there will be a hiatus between the areas, the hairs of which must be removed at a later period either by X-ray or electrolysis. It is possible, also, to obtain equal distribution over extensive surfaces by administering the ray in accordance with the laws relative to the square of the distance and the sine of the angle, but such a method is extremely difficult.

If the hair has been removed by a single epilating dose, without an erythema, the hairs begin to grow again in from one to three months. If an erythema occurs it is possible but unlikely that the loss of hair will be permanent. As a rule the temporary loss of hair is not complete and a regrowth occurs in a few months. To avoid the regrowth it is usually necesary to apply a suberythema dose of H ¾ B 10, every four to six weeks for six, eight or ten months.

It is possible to effect a defluvium on the face without producing an erythema by repeating the suberythema doses every three or four weeks for several months or by administering fractional doses, H ¼ B 10, twice a week or H ½ B 10 once a week for the same length of time. With the fractional technique the skin will tolerate H 2 B 10 in one month, and before another series of exposures is given a rest of two weeks should be granted. If such treatment is continued for several months a permanent loss of hair will result.

We have considered the question of erythema, now let us discuss the question of atrophy and wrinkling. The glandular appendages of the skin are more susceptible to the influence of the X-ray than is either the derma or the epidermis. In all probability this is because of the retarding influence of the X-ray on cellular activity—biological or physiological. The hair is produced by rapid cell division and growth in the hair bulb and lowermost portion of the follicle. Therefore, if enough ray has been administered to permanently prevent further cell

*The doses herein mentioned were measured by the pastille method in connection with the Holzknecht radiometer, and they were estimated at the skin-focal distance. The quality was obtained with the aid of the Benoist radiochromometer, spark gap, etc.

division in the bulb, the hair falls out and falls to grow again. Now, after a time the entire follicle undergoes atrophy from lack of function and this, together with more or less shrinking of the sebaceous glands and sweat apparatus, is likely to allow of more or less wrinkling of the skin. Furthermore, the germinal layer of the epidermis may also feel the effect of the X-ray with a consequent flattening of the rete pegs. In addition there may be more or less atrophy or sclerosus of other anatomical structures, such as the collagen, elastic tissue, muscles etc., all of which may enhance the wrinkling. Furthermore, inasmuch as these effects are late results of the X-ray, the wrinkling may not be noticed until several months after the cessation of treatment.

As we have seen, it is possible to effect a permanent and more or less complete loss of hair without the production of an erythema; therefore, the danger of teleangiectasia can be avoided. It is also possible to obtain the desired result without visible atrophy of the skin in a certain percentage of cases. But so much perseverance, good judgment and skill is required that the method is of little practical value. This is especially true of the face where the skin is very susceptible and where even a slight wrinkling is likely to constitute a serious disfigurement. The outcome of the treatment lies not only in accurate technique and judgment, but in individual differences in susceptibility to the late result of the X-ray.

Many roentgenologists, while refusing to utilize the X-ray in the treatment of hypertrichosis of the face, do not hesitate to apply the method for the purpose of removing hair from various portions of the body, such as the chest, axillæ, arms, hands and legs. In these locations a little atrophy would hardly be noticed and the method would be practical if it were not for the difficulty of applying the ray to the rather extensive and convex surfaces. In applying the treatment to the leg, for instance, it may be necessary to administer the ray to the anterior, posterior and lateral surfaces, each treatment being at right angles to the others. In this way it is possible to obtain a fairly equal distribution of the dose around the circumference of the limb. To treat any one of these surfaces from the knee to the ankle requires two treatments. That is, the anode is first placed over the shin just below the knee and then just above the ankle, the oblique rays from the two treatments overlapping and equalizing the dose in the centre of the limb. It will be seen, then, that not only are very careful mathematical measurement and estimation of the dose required, but that at least six exposures are necessary to cover one entire limb from the

ankle to the knee. When these facts are considered, together with the amount of labor, the expense and the length of time required to obtain the desired result with the least possible amount of skin effect, it will be admitted that the method is not very practical. And it is only occasionally that a patient has the perseverance to complete the treatment.

It has been claimed that better results may be obtained with the filtered than with the unfiltered ray—that larger doses can be applied without danger of an erythema, that the filtered ray affects the deeply seated hair bulbs without so much influence upon the more superficial structures and that, therefore, the method is quicker and safer. This is certainly true to a degree. The rays from every tube are heterogeneous and a thin filter (1 mm. aluminium) will prevent the passage of rays that exert the most marked effect on the epidermis and papillary and subpapillary layers of the derma, leaving the more penetrating rays to act upon the deeper structures. Nevertheless, even the very penetrating rays are capable of provoking an erythema or producing visible atrophy of the skin without the advent of an erythema if the total dosage is sufficient. Furthermore, even with the filtered ray, it is necessary to destroy the hair follicles if one desires to prevent the hair from growing and as already mentioned, this atrophy of the hair follicles, together with the possible shrinkage of the sebaceous glands and other deep structures, may produce a visible wrinkling of the skin.

But the mere fact that useless and injurious rays can be eliminated obviously makes the use of a filter decidedly advisable. It would seem that 1 mm. of aluminium should answer the purpose, although 2 and 3 mm. of aluminium, together with 1 mm. of glass or a thick piece of wet sole leather, have been advised. When a filter is employed the dose (quantity) can be increased. On the face the suberythema dose with 1 mm. of aluminium will be H. 1 instead of H, ¾ and with 3 mm. of aluminium it will be H. 1½; the quality should be at least B. 10.

Coarse hairs are destroyed much more readily than are the very fine, white, or lanugo-like hairs. The author has seen a fairly heavy growth of down, with an occasional coarse hair, in skin that showed distinct X-ray atrophy. The explanation for the more marked influence on the coarse black hairs is that in such hairs there is a more rapid growth—in other words, marked cellular activity, and the action of the X-ray on cells that are dividing rapidly or that are very

active physiologically is more marked than upon the comparatively inactive cells.

The medico-legal aspect of the X-ray treatment of hypertrichosis, especially of the face, is of the utmost importance and should be carefully considered. Malpractice suits based upon injury by the X-ray in the treatment of hypertrichosis have been relatively frequent in the past and in the majority of instances the verdict has been in favor of the defendant. The opinion of the court and that of the jury are likely to be quite at variance. The court's charge is usually about as follows: The court emphasizes and reiterates the chief facts brought out by the trial. He then tells the jury that all that is legally required of the defendant is that he be a roentgenologist of good standing, that he possess average roentgenological skill and be capable of using ordinary or average judgment. Furthermore, the burden of proving the absence of these attributes rests with the plaintiff. The law allows considerable latitude for errors of judgment and very little for errors of technique or lack of skill. It recognizes the possibility of injury and also the difference of opinion among the experts. The jury must decide if the plaintiff was able to show that the X-ray should not have been used in the individual case. It must also determine whether the injury was the result of carelessness on the part of the physician or due to causes beyond his control—such as idiosyncrasy, contributory negligence, etc. If the jury decides these facts in favor of the plaintiff it is instructed to next consider the question of damages to which the plaintiff is entitled. It must consider the amount of physical pain suffered, the mental anguish endured, time lost from business, etc. In considering the cosmetic disfigurement the jurors are instructed to compare it with the original defect. The court warns against the effects of sympathy for either side and charges that promises made by the physician must not be considered, as that would fall under the heading of breach of contract, for which a separate trial would be necessary.

The above is an abstract of a recent charge in a case of scarring and atrophy, with some teleangiectasia, of the face, resulting from a second degree radiodermatitis subsequent to the X-ray treatment for hypertrichosis several years ago. It will be seen that the charge is very fair and places the burden of proof upon the plaintiff.

While the court is able to interpret every point legally and deduce a strictly legal conclusion, the jury is likely to be guided, partly at

least, by sympathy. In the above instance, in spite of the favorable charge, the fact that the physician was of very high standing and the claim was for $10,000.00 damages, the verdict was $6,500.00 against the defendant. This verdict, however, was set aside by the court.

In a trial of this kind certain important questions are argued, as, for instance, is the X-ray treatment of hypertrichosis of the face ever justified and was the technique employed in accord with that advocated by leading roentgenologists?

In discussing the second question it will suffice to say that if such treatment is to be given at all it should be administered in accordance with a technique that is recognized by the experts of the period, and administered by a roentgenologist of proved ability.

The first question must be considered more carefully. We have seen that the majority of dermatologists and roentgenologists oppose the method while others favor it in selected instances. It may be admitted that by carefully measuring the dose and employing extreme care, a second degree radiodermatitis and even an erythema, with subsequent scarring and teleangiectasia can be avoided. Wrinkling of the skin also may be avoided but it is very likely to occur. It may be slight and not constitute as great a cosmetic defect as was the hypertrichosis, or it may be considerable and very disfiguring. It must be remembered that an unexpected erythema may occur due to errors in technique, the unadvised application of irritants and, finally, the possibility, if not probability, of an idiosyncrasy.

While admitting the possibility of obtaining a perfect result, the above points, together with the facts that the loss of hair is likely to be incomplete, and that we are dealing with a cosmetic defect rather than a more or less serious disease, leads the author to advise against this method in hypertrichosis excepting in very unusual cases.

There are individuals who have a marked and extensive growth of hair on the face and who are, perhaps, almost insane through worry. These excitable, neurotic patients express their willingness to risk the danger of X-ray treatment and the physician is naturally tempted to apply it. In such instances it is preferable to calm and dissuade the patient by carefully explaining the tediousness, the length of time, the expense, the uncertainty and the dangers of the method. Even if the individual seems to appreciate all this and yet is willing to undertake the treatment, the physician should still hesitate because even a signed agreement in which the patient desires to assume all responsibility, will not legally prevent the institution of a suit

for malpractice. Proof of such declaration on the part of the physician will, however, favorably influence the verdict providing the main requirements of the law are satisfied, namely, average skill, judgment, knowledge and ability as compared with the average roentgenologist of the year and locality.

At a recent meeting of the Manhattan Dermatological Society (January, 1917) Geyser presented a patient who had threatened to commit suicide if something were not done to relieve her of a very disfiguring hypertrichosis. There was so much hair and it was so fine that it was impractical to remove it by means of electrolysis. In discussing the case Geyser made the very reasonable statement to the effect that in cases where electrolysis was impractical and where the patient seriously considered suicide or showed signs of incipient insanity, it was far preferable to risk X-ray sequlæ than to allow the patient to commit suicide or to become insane. In this respect the writer is inclined to agree with Geyser, but he would not treat such a case without a consultation with a neurologist or with another dermatologist and with the patient's immediate family.

While radium will effect a depilation, the same as will the X-ray, it is seldom employed for this purpose because it would be most suitable for small areas and such cases would naturally be treated by means of electrolysis. Recently, however, Heidingsfeld (*Lancet Clinic*, 1916, CXVI, p. 305) and others, have advocated the use of radium in hypertrichosis. Burnam, speaking for Kelly (*Ibidem*) even states that radium may be used with perfect safety in these cases. While it is true that there is less uncertainty regarding accurate dosage, radium effects a defluvium in exactly the same manner as does the X-ray, so that the danger of complications and sequelæ is about the same.

SOCIETY TRANSACTIONS

NEW YORK DERMATOLOGICAL SOCIETY.

Regular Meeting, October 24th, 1916.

JAMES C. JOHNSTON, M.D., *President.*

XERODERMA PIGMENTOSUM. Presented by DR. POTTER.

The patient, Madeline P., 5 years of age, was born in the United States, of Italian parents. The family history was negative. The child had one sister, thirteen months old, who was perfectly well. The patient was normal at birth. During her second summer, she was frequently taken to Coney Island for the air and was placed on the beach. At the end of the summer, when the child was a year and a half old, freckles appeared on the arms and legs. The parents thought nothing of this, but noticed that each year the freckles became more numerous. Otherwise the child was well. Six months ago the child's eyes became sore and a few warty-looking growths appeared on the face.

The patient was first seen by the speaker a week ago and at that time the skin of the entire body was harsh and dry; the arms, legs and face were covered with freckle-like spots. The child had a mild ectropion and suffered from photophobia. On the face there were several warty excrescences, which the parents stated started as warts and gradually grew larger.

VERRUCA ACUMINATA OF THE MUCOUS MEMBRANE OF THE MOUTH. Presented by DR. TRIMBLE.

The patient was a little girl, 6 years old. Two months ago the parents noticed a few seed-like lesions on the inner side of the lower lip, which were followed by the appearance of others on the mucous membrane of the upper lip and gums. These became elevated until they assumed a verrucous aspect. When presented, the whole buccal region was covered profusely with lesions ranging in size from a pin head to that of a small match head. There were also several on the tongue.

XANTHOMA AND XANTHELASMA. Presented by DR. HOWARD FOX.

The patient, M. S., was a man, 32 years of age, born in the United States, engaged in business. A sister had suffered from xanthelasma. The eruption had first appeared three years ago. He presented lesions of xanthelasma on the upper and lower lids of both eyes, consisting of half a dozen horizontal, slightly elevated, soft flat plaques of characteristic yellow color. He complained of itching of the eyelids, though there was no evidence of scratching.

A few typical lesions of xanthoma tuberosum were present upon the right elbow and knee, left buttock and leg. The lesion upon the elbow consisted of a firm, semi-globular mass, the size of a hazel nut and of reddish color. The other lesions were nodules, less elevated, and showed the typical yellowish color of the disease. The patient had suffered from "stomach trouble" for years. The urine contained no sugar.

Discussion.

Dr. MacKee said that Drs. Winfield and Potter had had a case of xanthoma tuberosum in which there were lesions on the eyelids resembling xanthelasma. He himself had obtained some tissue from a lesion taken from the lower lid and histologically it was indistinguishable from the ordinary type of xanthoma.

Dr. Heimann emphasized what Dr. MacKee had said,—i. e., that xanthoma tuberosum and xanthelasma were but different pathological expressions of the same pathogenic process, the formation of tuberous lesions due to cholesterin deposits in the cutis on the one hand, acting as foreign bodies, and as xanthelasma lesions on the other, because of a similar disturbance in the orbicularis palpebrarum. There was probably no essential difference in the two processes, save for morphological disturbances due to the anatomical differences of the tissues affected.

Dr. George H. Fox could see no difference in the conditions occurring on the body and on the eyelids. In his opinion they were undoubtedly the same.

Dr. Fordyce agreed with Dr. Fox that the conditions were the same on the eyelid and on the body. Before we assumed that two different pathological conditions were represented by eyelid xanthelasma and xanthoma tuberosum, we should review the work of Dr. Pollitzer and endeavor to confirm his findings.

Dr. Howard Fox promised to have biopsies made and report on the case later.

CASE FOR DIAGNOSIS (SARCOID OR MYCOSIS FUNGOIDES?). Presented by Dr. Howard Fox.

The patient, Dr. W., was a medical missionary, 54 years of age, born in the United States. He had been in Arabia for twenty-one years previously to eighteen months ago, when he returned to this country. His parents had died of old age. He had had four brothers and two sisters, all of whom died shortly after birth. Two sisters were living. The patient was married and had been the father of six children, two of whom had died, one a few days after birth and one of kidney disease.

The eruption appeared suddenly and without apparent cause five months ago, and according to the patient's statement reached its maximum development in three or four days. Since then it had practically remained stationary. With the exception of slight itching at times, the patient complained of no subjective symptoms. The eruption consisted of circumscribed bluish red, elevated, firm patches upon the face, trunk and extremities. There was at times a slight branny desquamation, though the patches were mostly entirely smooth. The sensations of touch and pain were normal. There were in all, twenty more or less distinct patches on the face, neck, trunk, extremities and foreskin. They were round or oval in shape, varied in elevations from an eighth to a quarter of an inch. The largest diameter of the individual patches varied from one half to three inches. On the face there were five more or less distinct areas, situated on the right temporal region and upper part of the right cheek, upon the nose, interciliary region and left cheek. Of the remaining patches, two were situated on the left side of the neck, two upon the right arm, one upon the right buttock, two upon the abdomen, one upon the cheek, one upon the right and one upon the left thigh.

In the course of three months he had received, upon each lesion, fractional doses of X-ray, varying from ⅛ to ½ H units. The lesions of the face and upper extremities had each received a total of 2¼ H. units, and those on the trunk 3⅛ H. units. There was some improvement after treatment, the lesions being somewhat flatter. The improvement was, however, by no means what would have been expected in a case of mycosis fungoides.

Histological Description.

Dr. Walter J. Heimann kindly reported as follows:

"The picture seen in toto is that of skin in which the epidermis seems unchanged and the papillary body and deeper strata of the corium are sites of a distinct infiltration. The latter is of two types, a diffuse and focal. The diffuse area is the higher, and includes the papillary body and upper third of the corium. The focal is below this and is composed of numerous, almost circular, islands, resembling tuberculosis in their contour and general aspect. It is impossible to state whether the infiltration is perivascular or not, since it is so extensive, but many vessels are seen in the midst of the infiltrated spots. In the localities not included in the infiltration, the collagen is normal and takes the eosin stain well.

High power, Zeiss Occ. 4, Obj. D.D. Stain Hæmatoxylin=eosin. Save for inconsiderable œdema, the epidermis is normal. The diffuse higher infiltration looks like granulation tissue but on close study is found to be more than this. It consists of various cells having no ordered arrangements with reference to one another,— plasma cells, lymphocytes, epithelioid cells, fibroblasts, old connective tissue cells and giant cells. These are not in definite relation to vessels but the latter are numerous, dilated, engorged and lined with swollen intima. The lymphatics are also dilated. In addition to this, numerous signs of cytonecrosis are present, as evidenced by cell detritus, chiefly nuclear, the staining of which is deep. The focal areas have the usual systematized architecture of tubercles. The centres consist of lymphoctyes and giant cells, surrounded by epithelioid cells with a wall of lymphocytes, fibroblasts and fixed connective tissue cells about. A few plasma cells are to be seen and some cell detritus. The vessels are not only as above, but their walls are slightly thickened and a few are thrombosed. There are no mitotic figures and no eosinophiles.

With the Van Giesen connective tissue dye, the collagen is found normal in contour, but rich in nuclei and here and there strands of infiltrating lymphocytes are to be seen. The Weigert elastica stain shows an absorption of this substance within the infiltration, but a preservation thereof, outside.

There are no lepra cells or bacilli, nor are there numerous eosinophiles nor much kariokinesis, wherefore lepra and mycosis may be excluded. The vascular changes are not sufficient to favor the diagnosis of syphilis nor does the general appearance of the section. Thus, by exclusion, tuberculosis remains, and the absence of tubercle bacilli eliminates scrofuloderma; this fact and the normal epidermis exclude tuberculosis verrucosa cutis; while the normal epidermis and lack of central necrosis in the infiltration rule out lupus vulgaris. Sarcoid of Boeck is the only remaining possibility."

Dr. D. S. D. Jessup kindly reported as follows:

"The patient, Dr. W., was referred to us at the Laboratory of the N. Y. Skin and Cancer Hospital by Drs. Bulkley and Bechet for examination of lesions of the face, arm and trunk. The Wassermann was negative and smears from the nasal secretion did not show any acid fast bacilli. The first tissue removed was insufficient in amount for thorough study and on June 22nd, 1916, a second piece was removed from one of the lesions on the back. At this time, tissue cultures were made, on which we expect to report later. Sections stained by the Levaditi method were negative for spirochætæ and Ziehl's stain did not show any acid fast bacilli. With hæmatoxylin and eosin stain the picture was as follows: In the epidermis there is moderate hyperkeratosis and obliteration of interpapillary spaces and thinning of the stratum mucosum. The changes in the derma and subcutaneous tissue are very pronounced and at first glance suggest tuberculosis, on account of the many large giant cells of the type commonly seen in tubercles. There is a general cellular infiltration of the upper portion of the derma and these same cells have invaded the deeper portion, grouped in numerous islands. The cells are of the

epithelioid type, interspersed with small round mononuclear cells (lymphocytes) with a few polynuclear cells. The grouping of these endothelioid cells with giant cells and a surrounding zone of small round cells suggests tubercle formation but there are blood vessels present in groups, and no necrosis. The connective tissue between the islands appears normal.

Diagnosis: With the exclusion of syphilis, leprosy and tuberculosis and the clinical picture of non-ulcerating, purplish elevations in the derma, we appear to be dealing with one of the infectious granulomas to which the name sarcoid has been applied. These sarcoids are of several types and are described in four fairly well defined groups bearing the names of Boeck, Darier and Roussy, Darier, and Spiegler and Fendt. This case, microscopically, resembles mostly the Darier and Roussy type but clinically the Darier type, so that it appears to require a separate place in any attempt at classification."

Through the courtesy of Dr. Trimble, the following report of Dr. Alexander Fraser is added.

"The specimen consists of a piece of skin, the corium and subcutaneum of which are infiltrated with numerous small nodules and groups of nodules.

In the corium the nodules are situated around the blood vessels and in places have invaded the epiderm and, having replaced the prickle layer, lie immediately under the corneum. In the subcutis they are situated about the vessels, hair follicles and sweat glands.

The histological architecture of these nodules is very similar to that of the epithelioid cells which frequently, by fusion, form giant cells. The peripheral portion is densely infiltrated with wandering cells, chiefly of lymphoid type. Mixed with the cells, in addition to the anastomosing ramifications from the cytoplasm of the epithelioid and giant cells, there is evidently some fibrin which exists as a reticulum of very fine threads which sometimes are seen radiating from a central mass.

The cytoplasm of the epithelioid and giant cells does not show the tendency to necrosis which is *commonly*, but not by any means *always* a striking feature in tuberculosis. Instead, it is reticulated, vacuolated or 'foamy,' as if autolysis, or perhaps fatty infiltration were going on. Stains for tubercle bacilli gave negative results (which means nothing).

The blood examination, kindly made by Dr. William M. Higgins, showed the following: Hæmaglobin, 85 per cent; red blood cells, 5,100,000; hæmaglobin index, 0.83; leucocytes, 8,600. Differential leucocyte count:

Polynuclears,	89.4 per cent.
Transitionals,	3.0 per cent.
Lymphocytes, small,	3.2 per cent.
Lymphocytes, large,	1.6 per cent.
Large mononuclears,	1.6 per cent.
Eosinophile,	1.0 per cent.
Basophile,	0.2 per cent.
	100.0 per cent.

No abnormal red cells were present. The red cell count shows nothing that is significant, the findings being practically within normal limits. In the white cell count, the leucocytes are not increased in number but in the differential there is a fairly high relative polynuclear increase, with the lymphocytes correspondingly decreased."

Discussion.

Dr. Whitehouse said that from the history of the development of the eruption, he was inclined to believe that it was not a case of mycosis fungoides,—coming on so suddenly and developing such large infiltrated masses, with an absolute lack of itching. The histological picture was not that of mycosis fun-

goides. It would possibly conform more to the type of eruption of which several cases had been shown recently,—namely, sarcoid. Probably further investigation would show the condition to be the sarcoid of Boeck.

Dr. Trimble said that he had seen the case once before, probably about the time Dr. Fox first saw the patient. He had been sent to the Skin and Cancer Hospital to have a Wassermann test and also to have a pathological specimen taken, and he was kind enough to allow the speaker to examine the lesions. At first glance the condition seemed to be mycosis fungoides, but the face lesion gave a different impression. The lesion on the face was very much like a case of sarcoid that he had seen several years before, and he mentioned this fact to one of the pathological workers at the time. Boeck, under the title of multiple benign sarcoid, had defined three types,—a papular, a nodular and a diffuse infiltrating variety. The speaker said that he had never before seen the third type, but the case presented would seem to belong under that head. He had directed the attention of one of the pathological workers to sarcoid, and afterward it was said in the laboratory that microscopically it did not resemble mycosis fungoides. He had taken a specimen to the University and Bellevue Laboratory, and two especially good pathologists, without being told anything about it, said that it was tuberculous in appearance. Dr. Fox had asked him to get a written report, and he had done so, showing what was thought about it in the University and Bellevue School, in the General Pathological Department. Clinically, the lesion on the body resembled mycosis fungoides; the lesion on the face had the appearance of the sarcoid of Boeck, and from what had been said in the discussion, the latter was probably the correct diagnosis.

Dr. Kingsbury thought it was a case of sarcoid, although the lesions were not altogether typical. The diagnosis of leucæmia cutis might be considered from the clinical standpoint.

Dr. Wise agreed with Dr. Kingsbury that the diagnosis of leucæmia cutis should be considered from the clinical point of view. The sharply defined, raised, bluish and violaceous tumors presented a clinical picture indistinguishable from that of leucæmia cutis circumscriptum.

Dr. Heimann said that he had made his first acquaintance with the case through a microscopic specimen, the examination of which suggested mycosis fungoides, or some form of sarcoid,—more likely the mycosis. However, on seeing the patient, he felt that mycosis could be eliminated, and that the lesion was a sarcoid. Leucæmia was a possibility, as well as sarcoma, for if it did not look like sarcoma it would not be called sarcoid. He had seen an identical case in Vienna which had been regarded as sarcoid with absolute certainty. He saw no reason clinically for considering mycosis fungoides, for the localization, the absence of a premycotic dermatosis, and the general appearance of the lesions indicated the probability of sarcoid.

Dr. MacKee said that the fact that the lesions had failed to respond readily to fairly intensive Roentgenotherapy would militate against a diagnosis of mycosis fungoides. Conversely, the fact that there was considerable improvement in one tumor following a single application of the solid carbon dioxide would favor a diagnosis of sarcoid. Finally, the histological picture resembled sarcoid more than it did mycosis fungoides.

Dr. Fordyce considered the case one of sarcoid. He had previously examined a case of sarcoid histologically, and the pathological conditions in the present case were identical with the one he had previously seen.

Dr. Sherwell referred to the case of a Scandinavian gentleman in one or two of the immediately preceding meetings. It would perhaps be remembered that the tumor lesions were situated on and above the malar prominences. They much resembled those of the case shown. Those who made the diagnosis at the time of presentation pronounced them sarcoid of an unusual character. The speaker said he was of the opinion that this case also was one of sarcoid and not mycosis fungoides.

Dr. Johnston said that the histological picture was that of a granuloma. The offending agent might be the tubercle bacillus or, perhaps, the Leishman-Donovan body. Color was lent to the latter suggestion by the patient's long residence in Arabia. Cases had been described by Italian physicians as originating in Sicily.

Dr. Howard Fox said that he had never before seen a similar case and thought that from a clinical standpoint both sarcoid and mycosis fungoides should be considered. He agreed with Dr. MacKee that the practical failure to improve under the X-ray was strong evidence against the diagnosis of mycosis fungoides.

ERYTHEMA FIGURATUM PERSTANS. Presented by Dr. Wise.

The patient, L. S., a male, single, aged 35 years, presented a disease which began a year and a half ago. He exhibited a number of lesions, some circular, others semicircular and festooned, somewhat raised above the level of the skin and slightly scaly, on various parts of the body. Some of them had existed as they were for as much as three weeks, which was the longest time that any of them had been observed by the speaker. The patient also had had moderate attacks of erythema and urticaria. There were a number of circular and semi-circular lesions on the abdomen, in the axillæ and on the neck, with patches on the upper part of the shoulders and a few on the upper arms. The edges were raised, reddish-pink in color and scaly, while the interior of the plaques was flattened and yellowish in color. A histologic section was demonstrated. The changes were suggestive of a sub-acute inflammatory process resembling erythema multiforme. Cases of this type had recently been reported by Wende.

VERRUCOUS LESIONS ON HEAD. Presented by Dr. Trimble.

The patient was a man, 54 years of age, a tailor by occupation. The entire vertex was bald and in this area, in front and to the right of the middle line, was a lesion two and one-half inches long and half an inch wide. It might be termed linear, although it was not straight. The color was dusky-red to brown, and it was verrucous in character. The duration was one and a half years, and it began anteriorly, gradually extending backward.

Discussion.

Dr. Potter said that it seemed to him to be a case of senile keratosis, of unusual arrangement.

Dr. Heimann agreed with Dr. Potter.

EXTENSIVE LUPUS VULGARIS. Presented by Dr. Howard Fox

The patient, Martha J., had been shown five months previously, at the last meeting of the Society. She had been exhibited as a possible case of lupus, as at that time no histological examination had been made. The diagnosis of lepra had been considered but ruled out, as there was no anæsthesia or change in sensation in any of the numerous lesions scattered over the face and extremities. The Wassermann reaction was negative, which seemed to be as much against the diagnosis of nodular leprosy as against syphilis. On account of the extent of the eruption, the presence of nodules near the eyebrows and lobules of the ears and a history of a previous nasal condition, five of the members present were inclined to diagnosis of leprosy. The diagnosis of lupus vulgaris was, however, later confirmed by histological examination made by Dr. Heimann, who reported as follows: "Alcohol fixation, paraffin

imbedding, hæmatoxylin-eosin stain. Low power, Zeiss Occ. 4. Obj. A. The epidermis is normal in configuration and structure, and there are no pathological changes in the epithelial cells. The shape of the papillary body is unmodified, but the vessels at this level are markedly dilated and their endothelial lining swollen, although they give no sign of thrombosis: The collagen in the papillæ is œdematous and rich in fibroblasts, and at certain points, foci of a granulomatous nature are to be seen. These are very small at this level. The vessels of the subpapillary plexus are also enlarged and otherwise altered as those mentioned above. The corium is the seat of a profound and varied infiltration which is prevailingly composed of numerous foci, tending to be circular or elliptical in outline, surrounded by strands of connective tissue, and situated about dilated, engorged or thrombosed vessels.

High power, Zeiss, Occ. 4. Obj. DD.

The infiltration is that of a granuloma and the foci mentioned have softening necrotic centres, or centres in which the tingibility of the cells is reduced. The foci further seem to be arranged about dilated or thrombosed vessels and contain enlarged and engorged lymphatics. The cellular elements consist of epitheliod, plasma, lymphocytic and fibroblastic types, among which are seen numerous examples of Langerhans giant cells, the entire picture suggesting tuberculosis, more particularly lupus vulgaris. There are no lepra cells, and the carbol-fuchsin dye fails to reveal the presence of acid fast bacilli. The last mentioned fact, with the absence of lepra cells, rules out nodular leprosy, and the lack of bacilli further excluded any type of tuberculosis that might be considered in the present case, except lupus vulgaris.

Diagnosis, lupus vulgaris."

The lesions on the face were being destroyed by high frequency cauterization.

URTICARIA PERSTANS. Presented by Dr. Heimann.

The patient was 22 years of age, and had suffered from the condition for four years. The lesions began as itching wheals and remained as persistent papules. When presented, the forearms, chest, back and abdomen were covered with brown lenticular lesions, the size of a split pea, rather hard, not scaling, and tending to become wheals when rubbed. In addition, simple wheals were to be seen, and dermographism was present, although not pronounced.

Discussion.

Dr. Wise said that, although according to the exhibitor, the histological picture was that of urticaria, clinically the case resembled parapsoriasis very strongly.

Dr. Heimann said he thought it was distinctively in the exudative group,—that the lesions persisted, hence the Latin name, perstans. Clinically, it was urticaria, but microscopically, not urticaria pigmentosa. It might be termed an urticaria perstans, which would be a descriptive clinical label, but of course not explanatory as to the nature of the process.

PEMPHIGUS. Presented by Dr. MacKee for Dr. Fordyce.

The patient was a single woman, 25 years of age. About eight months ago, she entered the clinic with a generalized eruption which consisted of erythematous plaques, vesicles and bullæ. There were also ulcerations of the buccal mucosa. The eruption subsided in a few weeks, but since that time there had been several such attacks. Finally, the patient ceased to have outbreaks resembling erythema multiforme. There were no more sudden attacks and no more erythema. Instead, there were always present a few well-filled bullæ on different parts of the body. On the backs of the hands a large number of milium-like bodies appeared and the patient stated that bullæ often followed

traumatism. The patient had received twenty-two auto-serum injections without benefit.

Discussion.

Dr. Trimble said that he had seen two or three such cases, but did not know what name to give them.

Dr. MacKee said that the case resembled one that Dr. Fordyce had presented before the Society on several occasions. In that case there had at first been frequent attacks of apparent erythema multiforme of the bullous type. Later, the eruption resembled epidermolysis bullosa. In that case, also, there were numerous epidermic cysts on the backs of the hands and bullous lesions would follow local injury. He further said that the diagnosis in such cases rested between acquired epidermolysis bullosa and pemphigus with traumatic lesions.

Dr. Kingsbury said that he had not examined the case carefully, but that the lesions he did see suggested very strongly Duhring's disease.

Dr. Wise said that the chief interest attaching to the case consisted in the presence of the miliary vesicles on the hands. He was not aware that in erythema multiforme such vesicles occurred, nor whether they were commonly seen in Duhring's disease. He had never encountered them in other dermatoses than pemphigus and epidermolysis bullosa.

Dr. Trimble said that he was not prepared to answer Dr. Wise's question, but that apropos of Dr. MacKee's remarks, it seemed very similar to the case Dr. Fordyce had previously shown. He had seen Dr. Fordyce's case a number of times, and had always been under the impression that it was one of epidermolysis bullosa of the acquired type. It was very much more severe than this case. The lesions in the case presented were so mild that he had hesitated to make the diagnosis. Both of the patients had the milium-like bodies. He had heard it said that they followed numerous diseases, though he could only recall the two Dr. Wise had mentioned.

PERSISTENT ERYTHEMA IN ZOSTER. Presented by Dr. MacKee for Dr. Fordyce.

The patient, C. Z., was a woman, 60 years of age. Six months ago she had an attack of herpes zoster frontalis, and since then had had a persistent erythema involving the forehead and cheek on the left side. The redness of the affected areas was in part due to telangiectatic vessels. Pressure did not cause a complete recession of the redness. The patient was presented for suggestions as to treatment.

Discussion.

Dr. Sherwell said that, as Dr. Wise had requested suggestions for treatment he would like to state that the use of the continued electric current had to his knowledge proved of value in some cases. A peculiarity of herpes of the 5th nerve was noteworthy,—when the lesion affected or was manifest on the ala nasi, the eye on that side was almost always painfully affected and there was great pain and disturbance of nutrition and occasionally, ulceration of the cornea, etc. Dr. Jonathan Hutchinson had been the first to observe or comment on this, and after having heard him in 1881, he (the speaker) had been the first to bring it to the attention of the Society. The speaker said that he had personally seen several cases in which the pain was relieved by the form of electricity mentioned.

TWO CASES OF EXTRA-GENITAL LESIONS. Presented by Dr. Fordyce.

The two young men presented initial lesions of the fore-arms. Both had secondary eruptions and absence of genital lesions. The cases were of interest because both men worked in the same ice-cream factory and carried on their

arms buckets containing ice cream. The traumatism resulting from their occupation had probably become infected with the spirochætæ.

ACNE VARIOLIFORMIS. Presented by Dr. Potter.

The patient was a boy 16½ years old, born in England of Russian parents. He came to this country when two years old. Family history, negative. The patient had never had any serious illness, but had always been delicate. The trouble started three years ago, when the boy first noticed a few pimples on the face. These were small and hard, gradually grew larger, and finally broke down and discharged a little pus; then crusted over. When the crusts came off, a red scar remained. The condition extended from the face to the neck, chest and more particularly the shoulders and interscapular region. When first seen, the face, neck, shoulders and back were covered with crusts. These had been removed under treatment, and when presented, the whole area involved showed superficial scarring. The von Pirquet test was negative.

Discussion.

Dr. Fordyce considered the case to be an exaggerated form of acne vulgaris, with secondary staphylogenic infection.

RECURRENT SYPHILITIC EXANTHEM. Presented by Dr. MacKee for Dr. Fordyce.

The patient had a primary lesion on the penis and a generalized secondary roseola, eight months ago. He received one course of antisyphilitic treatment, consisting of six injections of salvarsan and eighteen injections of the salicylate of mercury, at weekly intervals. He failed to remain under observation, but returned to the clinic a few days ago, with a generalized macular eruption.

LARVA MIGRANS. Presented by Dr. Whitehouse.

The patient, a young man of about 30 years, contracted the disease on August 29th, while on duty on the Mexican border, as a member of the U. S. forces stationed there. There were thirteen cases to his knowledge, five of whom, including himself, were definitely traced to a certain ranch in Texas where they slept on the ground, from twelve o'clock one day until five the next morning. At that time, he had thirty-eight distinct and active foci. These were treated for one month by the army surgeons, by various methods, including excision of the furrows and adjacent skin, freezing with ethyl chloride, chloroform applications, caustics and the X-ray. When first examined, a month later, on his return to New York, there were about twenty-five active lesions, and on presentation, after a month's treatment with maceration by baths and scrubbing, and applications of 10 per cent. epicarin in white vaseline, the number was reduced to eight or ten active foci. He presented two or three lesions on the left fore-arm; two on the right hand, dorsal surface, and along the side of one finger; three on the left side of the chest; and one very active and characteristic lesion over the lower lumbar region. Some of the furrows were one and a half to two inches long. They often progressed nearly that far in a night, and would often lie dormant some time before becoming active again. The furrow did not contain the larva, for if excised the larva began its activities again at least a half inch in advance of its terminus.

NEW YORK ACADEMY OF MEDICINE, SECTION ON DERMATOLOGY.

Regular Meeting, Oct. 3, 1916.

CHARLES M. WILLIAMS, M.D., *Chairman.*

LICHEN ACUMINATUS. Presented by DR. TRIMBLE.

The patient was a man aged 55 years. Since childhood he had enjoyed good health, and had never before suffered from a skin affection. The duration of the disease was five months, and the eruption began on the chest and gradually spread to other areas. It was brownish-red in color, covered with branny scales and had the usual enlarged follicles with horny plugs.

PEMPHIGUS. Presented by DR. TRIMBLE.

The patient, M. F., was born in Russia. He was 43 years of age, and by occupation a tailor. His mother was living at the time of presentation; his father was dead, and one brother and sister were living and in good health, while one brother and sister were dead.

The duration of the disease was two years and five months, and the patient had been one year and five months in Kings County Hospital. He was admitted to the Skin and Cancer Hospital on December 6th, 1915. His first remembrance of his condition was the appearance of an eruption on his shoulders, accompanied by slight itching, the eruption having spread downwards until the trunk and limbs became involved. He noticed the occurrence of bullæ about two months after the eruption appeared on the shoulders; these were of various sizes, from that of a bean to an orange, and filled with clear fluid which, when emptied, left a raw, bleeding surface beneath.

On admission to the Hospital, the patient was covered with an erythematous rash, desquamating, with thick crusts scattered over the body; his general condition was fair; the Wassermann test was negative and the urine, examined at various times, showed nothing abnormal.

During his stay at the hospital crops of bullæ appeared on the patient's body, arms and limbs, and at one time several pea sized ones appeared in the mouth. No bullæ were found in the patient's mouth during the four months previous to his presentation.

Treatment, while at the Skin and Cancer Hospital, consisted of various salves, of which unguentum calamine and zinc oxide gave the most relief. Internally, sodium lactate, gr. v., t. i. d., was given over a period of six weeks without improvement. Streptococcus vaccines from streptococci isolated from a blood culture and bullæ on body were injected intramuscularly. Eight injections were given, one every five days, in increasing doses ranging from ten million to a hundred million. There was improvement, but the patient complained of itching after the two last injections of a hundred million.

At the time of presentation the patient's body was covered with greasy crusts, with scattered areas of dark, erythematous skin; small flaccid bullæ appeared daily and were defined poorly. The fluid was clear at first but soon became purulent. On rupturing, it formed a crust over the excoriated surface beneath. The skin around the patient's neck and especially at the back of the neck was thickened and furred.

DISCUSSION.

DR. PISKO stated that in spite of the size of some of the bullæ he regarded the case as eczema. He said that it was too benign in character for pemphigus, and that this condition would have been worse in two and a half years than it was.

DR. OULMANN regarded the case as one of pemphigus.

DR. KINGSBURY said that although he held some of Dr. Pisko's views as pertinent, he was nevertheless inclined to favor the diagnosis of pemphigus.

DR. H. FOX asserted that although an absolute diagnosis could not be made without careful study, he favored that of pemphigus foliaceus. He said that he was unfamiliar with eczema characterized by flccid bullæ and defined pemphigus foliaceus as presenting a combined picture of exfoliative dermatitis and bullæ formation. The crusted lesions, he said, supported the diagnosis of pemphigus.

DR. HEINMANN said that there was no doubt in his mind as to the diagnosis of pemphigus. Bullæ of this type were unknown in eczema, and that this fact excluded the views of one of the previous speakers. Furthermore, pemphigus foliaceus began either as pemphigus vulgaris, dermatitis herpetiformis, or as one of the many other types of bullous dermatoses, gradually to assume the features of pemphigus foliaceus. The fact that the patient was still in fair health was not against this diagnosis, as the disease at times persisted for sixteen years.

PREMYCOTIC ERYTHRODERMIA. Presented by DRS. MACKEE AND WISE.

The patient, L. W., reported the duration of the disease as seven years. The location of the disease was general. The past history showed the trouble recurring and relapsing for the past seven years. Various parts of the body and the face and neck presented areas of redness, scaling and moderate induration. Some of the lesions were circinate, some simply macular, others papular and scaly. Itching was sometimes intense. On the face, the eruption was more seborrhœic in type. The histology was indefinite. The epidermis was thickened and showed inclusion cells and areas of degeneration, with very large numbers of mitotic figures, and the superficial and deep vessels were dilated and surrounded by a mild lymphocytic infiltration. The cutis was negative, while the epidermis suggested premycosis.

DISCUSSION.

DR. MACKEE said that histologically the case suggested mycosis fungoides.

DR. WISE thought that this was true also of its clinical appearance.

DR. FOX stated that the jagged appearance of some of the lesions reminded him of lichen acuminatus.

DR. TRIMBLE said that he had seen the case at the Skin and Cancer Hospital and that its clinical appearance was so clearly that of mycosis fungoides that he had had no microscopic examination made.

DR. WILLIAMS was unable to detect any suggestion of lichen acuminatus.

DR. MACKEE said that clinically he had considered the case of mycosis fungoides but he had a microscopic examination made to exclude parapsoriasis and lichen acuminatus.

CASE FOR DIAGNOSIS. Presented by DR. ROTHWELL.

The patient was a man, 25 years old, and a barber by occupation. From scalp to toes he was covered with an eruption of vesicles the size of a match head, arising from practically normal skin. Many lesions were impetiginous in character, though the crusts were quite superficial; in some places the lesions were circinate in appearance. Pigmentation was apparent in the genito-crural region, where also coalescence was observed. The disease began, according to the patient's statement, in the left axilla, and had existed for two and one-half months. At the first outbreak the blebs were hazel-nut

in size; since that time all the recurrences had been of the small variety. Slight itching was the only subjective symptom.

Discussion.

Dr. Bechet suggested a drug eruption.

Dr. MacKee thought of dermatitis herpetiformis and pyodermia and said that he favored the latter view.

Dr. Trimble said that the case might be a miliary impetigo.

Dr. Fox said that iodine should be tested for in the vesicles.

Dr. Rosen stated that in many respects the case resembled grain itch.

RHINOSCLEROMA. Presented by Drs. MacKee and Wise.

The patient, W. S., was born in Austria, had been six years in this country and was married. The duration of the disease at the time of presentation was two years. Location, nose. The family history was negative; the past history showed that the disease began in the left ala of the nose. The tumor grew very slowly for one year and a half, and rapidly during the six months previous to presentation. At the time of presentation the nose was enormously enlarged and very hard. Ulceration of the nasal and pharyngeal mucosa was present. The treatment consisted of intensive filtered X-ray administrations.

Histology: Marked hyperkeratosis, especially follicular. Moderate acanthosis with œdema and mitotic figures. The vessels were enormously dilated and congested. The derma was œdematous. There was a marked, diffuse infiltration of plasma cells and connective tissue cells mostly—also lymphocytic cells. The tissue was obtained from the lip and showed the early stage of the disease.

Discussion.

Dr. Kingsbury thought it was a sarcoma.

Dr. MacKee said that the histology of the lesion suggested rhinoscleroma rather than sarcoma.

Dr. Oulmann said that although the microscopic appearance was that of rhinoscleroma, it was not entirely characteristic, but that sarcoma could be eliminated.

LICHEN PLANUS. Presented by Dr. Wise.

The patient, M. I., aged 73 years, was married, a Russian, and a cap maker by occupation. He attended Mt. Sinai Dispensary. On the day the case was presented the patient had come for the first visit. There was a grayish white, slightly scaly patch on the lower lip; it was of seven months' duration, and had been gradually increasing in size. The inner surfaces of the cheeks showed small spots of macular and circinate leukoplakia. There was no eruption on any part of the body or any visible mucous membranes except the backs of the hands. This appeared as a folliculitis. The Wassermann result had not yet been obtained.

Discussion.

Dr. Trimble said that the lip lesions resembled lichen planus, but that he had never seen lichen on the vermilion border. He thought that the labial lesions might be a precancerous dermatosis.

Dr. Pisko thought that lip lesions were those of early cancer.

MELANODERMA OF UNDETERMINED ORIGIN. Presented by Dr. Lane.

The patient was a colored man, aged 39 years, born in New York. The increased pigmentation began in March, with a small spot on the nose. By the end of April it had reached the proportions seen at the time of presentation. The increase was most marked on the lower part of the face, where it was uniform and deep black. In other locations it was made up of small spots, varying in size from a pin head to a dime. The small spots showed that the origin was perifollicular. Pigment was present on the inner side of each cheek. There was no history of preceding illness and no history of any drug having been used. There had been no abnormal sensation at any time, except violent itching after hot baths, since the time of the appearance of rash. The Wasserman reaction was negative.

Discussion.

Dr. Pisko said that the lesions suggested those of postlichen pigamentation.

Dr. Rosen asked whether purpura hæmorrhagica had been ruled out.

Dr. Williams said that some of the lesions on the chest were streaked and glistened like lichen papules.

Dr. Lane said that there had never been any evidence of purpura.

EXTENSIVE LUPUS ERYTHEMATOSUS. Presented by Dr. Howard Fox.

The patient, C. A., was a woman, 27 years of age, born in the United States. She was a mulattress with an admixture of Indian blood. She gave a strong family history of tuberculosis. The eruption had first appeared two years and four months previously and was present upon the scalp, face, ears, backs of the hands and back. The patches were dry, sharply circumscribed, slightly scaly and of a violaceous color. The patches on the back were unusual in size, the largest of the four areas present measuring 4 by 7 inches. The patient was under treatment with radium.

Discussion.

Dr. Fox said that he presented this patient to show the effect of radium on the process, and stated that Dr. Simpson, of Chicago, used radium first and the Kromayer light later, and obtained beautiful results.

ACNITIS. Presented by Drs. MacKee and Wise.

The patient was a man, aged 34 years, apparently in good health. The skin of the face exhibited a rosacea of moderate severity. In addition to the changes accompanying the rosacea, the skin of the cheeks, nose and chin exhibited numerous pinhead sized, globular, yellowish, translucent papules, characteristic of acnitis. The diagnosis had been previously confirmed by microscopic examination of one of the little papules.

Other cases demonstrated were:

ERYTHEMA MULTIFORME. Presented by Dr. Bechet.

SCLERODERMA. Presented by Dr. Bechet.

MORPHŒA IN A CHILD OF SIX. Presented by Dr. Heimann.

ERYTHEMA INDURATUM. Presented by Drs. MacKee and Wise.

ERYTHEMA INDURATUM. Presented by Dr. Bechet.

FOLLICULITIS DECALVANS. Presented by Dr. Feldman (by invitation).

BLASTOMYCOSIS. Presented by Dr. Heimann.

BLASTOMYCOSIS. Presented by Dr. Oulmann (previously shown at Manhattan Dermatological Society two years ago.)

LEPRA. Presented by Dr. Fox.

SCALY SYPHILODERM OF THE SOLES. Presented by Drs. MacKee and Wise.

ANNULAR SYPHILIS. Presented by Dr. Fox.

LUPUS ERYTHEMATOSUS. Presented by Dr. Rothwell.

LUPUS ERYTHEMATOSUS. Presented by Drs. MacKee and Wise.

TUBERCULOSIS VERRUCOSA CUTIS. Presented by Dr. Lane.

LUPUS ERYTHEMATOSUS ASSOCIATED WITH SARCOID. Presented by Dr. Trimble (previously presented before the N. Y. Dermatological Society.

REVIEW

OF

DERMATOLOGY AND SYPHILIS.

Under the direction of

FRED WISE, M.D., New York,

Assisted by

CLARENCE A. BAER, M.D., Milwaukee.
WILLIAM H. BAUGHMAN, M.D., New York
PAUL E. BECHET, M.D., New York.
J. S. EISENSTAEDT, M.D., Chicago.
CHARLES GOOSMANN, M.D., Cincinnati.
JAMES F. GRATTAN, M.D., New York.
W. H. GUY, M.D., Pittsburg.
ROBERT C. JAMIESON, M.D., Detroit.
FREDERICK T. LAU, M.D., New York.
M. F. LAUTMAN, M.D., Hot Springs.
OSCAR L. LEVIN, M.D., New York.
M. L. RAVITCH, M.D., Louisville.
ISADORE ROSEN, M.D., New York.
MAX SCHEER, M.D., New York.
PHILIP F. SHAFFNER, M.D., Chicago.
A. W. STILLIANS, M.D., Chicago.
JOHN H. STOKES, M.D., Chicago.
HARVEY P. TOWLE, M.D., Boston.
VICENTE PARDO, M.D., Havana, Cuba.

JAHRBUCH FÜR KINDERHEILKUNDE.

(May and June, 1915, xxxi, No. 5).
Abstracted by HARVEY PARKER TOWLE, M.D.

SUSCEPTIBILITY TO TUBERCULIN. BESSAU.

This article is not only interesting of itself but it is even more interesting because of the light which it throws upon the larger, general subject of anaphylaxis.

Bessau takes especial care to warn the reader, at the outset, that the phenomenon of tuberculin susceptibility must not be confounded with the anaphylactic reaction produced by the albuminous content of the tubercle bacillus. The latter behaves like any other anaphylactic phenomenon. Susceptibility to tuberculin, on the contrary, can not be demonstrated, in advance, in a normal subject nor its manifestations caused by an albumin proteid. The characteristic component of tuberculin is a polypepted, a non-anaphylactogenous substance. Therefore, antibodies play no part in susceptibility. Nor can tuberculin susceptibility, like anaphylaxis, be either passively induced or transmitted to the offspring.

Bessau arrived at the conclusions by comparing the phenomena of susceptibility to tuberculin with the phenomena of susceptibility to serum, a state, he says, undoubtedly due to antibodies. For example, he reports these differences:

The system reacts more slowly to tuberculin than to serum.

Tuberculin rarely, serum usually, produces an exanthem. Our ignorance

of the nature of the serum reaction prevents an explanation of this difference.

Tuberculin will not sensitize a normal individual. Serum not only will, but a fairly charcteristic incubation period also is noted.

Bessau argues, further, that the differences which the local signs present to injections of tuberculin and of serum are added proof that antibodies are not concerned in the manifestations of tuberculin susceptibility.

With tuberculin, the local symptoms develop gradually and with no recognizable period of incubation. With serum, the symptoms develop with a rush.

With tuberculin, the signs of reaction are always most intense in the centre of the tuberculosis area. With serum, the intensity is greatest in the periphery, as a rule. A serum injection will sometimes awaken new life in the periphery of a fading papule by causing a fresh explosion of antibodies. Bessau explains that such phenomena of renewed activity, in all probability, indicate an action and a reaction on remnants of antigen still persisting in the peripheral tissues and indicate, also, a mere local, not a systemic, proceeding. Similar phenomena of reactivation do not occur with tuberculin injections.

He also finds characteristic differences in the respective local effects of repeated intradermal injections of the two substances. Whereas, the curve of the responsiveness of the local tissues to injections of serum rises quickly and quickly reaches its acme, it also declines to zero rapidly, after brief maintenance at its highest level. Bessau considers this behavior of the serum susceptibility curve and the rapid loss of responsive power, characteristic. This state of maximum effects in a very short time, an equally brief existence and a subsequent loss of power to elicit response to the zero mark revealed by the serum reaction curve, Bessau has named katanaphylaxis. It is not, he says, a manifestation of antianaphylaxis but a result of overwork. The calls upon the antibody-producing machinery of the rapidly repeated injections have induced so great a state of exhaustion that the power to respond is first decreased and then lost. On the other hand, the response to the last tuberculin injection is as energetic as the first, under identical conditions.

ARCHIV FÜR KINDERHEILKUNDE.

(lxii, Nos. 5 and 6, 1914.)

Abstracted by HARVEY PARKER TOWLE, M.D.

THE DIAGNOSTIC SIGNIFICANCE OF THE DOHLE LEUCOCYTIC INCLUSIONS IN SCARLET FEVER, DIPHTHERIA, ANGINA AND SERUM EXANTHEMS. S. N. ROSANOFF, p. 321.

First, Dr. Rosanoff discusses very briefly the differing opinions as to the nature of the Dohle inclusion bodies and their significance, after which he describes his own results in 646 examinations of blood smears.

He concludes that the examination of a single blood smear is insufficient for the diagnosis of scarlet fever, because inclusion bodies also occur in measles, diphtheria, angina and other diseases. On the other hand, their absence during the early days of the suspected disease speaks positively against the diagnosis. As an early diagnostic sign, the value is limited by the fact that, in mild cases, they are few in number and therefore, difficult to find. The strength of the reaction is related to the intensity of the disease. In cases of scarlet fever complicating measles or diphtheria, a positive differential diagnosis can not be made before the fifth day. The presence of the inclusion bodies in angina, except in phlegmonous forms, should excite the suspicion of scarlet fever. If inclusion bodies are found after the fifth

day of the initial disease, they serve to differentiate true scarlet fever from scarlet fever-like exanthems. Rosanoff does not, however, consider the inclusion bodies to be the active agent of scarlet fever.

JAPANISCHE ZEITSCHRIFT FÜR DERMATOLOGIE UND UROLOGIE.

(December, 1915, No. 12.)

Abstracted by M. F. Lautman, M.D.

ECTHYMA GANGRÆNOSUM CACHECTICORUM. Sato, p. 909.

(*Ibidem*, January, 1916, xvi, No. 1.)

PSEUDOSYPHILITIC LEUCODERMA OCCURRING IN THE JAPANESE. Okamura, p. 2.

This observer reports a variety of leucoderma which he has observed only in the Japanese race and which, in its form and size, resembles closely the depigmentations seen in syphilis and psoriasis. It is, however, more apt to be seen over the lumbar region, back, buttocks, thoracic and abdominal walls, axillary folds and scapular regions, while the neck and extremities are but exceptionally involved. It is also more common in men than in women and is usually seen between the ages of 15 and 50. The Wassermann rules out syphilis as an ætiological factor, and psoriasis need not be considered on account of its extreme rarity among the Japanese.

Histologically, the cells in the epidermis and basal cell layer at the margins of an affected area show very slight loss of pigment, but those in the centre of the spot are quite free from pigment. The cutis shows no pigment whatsoever. The author believes that this condition is seen only in the Japanese and suggests some causal relationship between it and the manner of dress as well as the natural hyper-pigmentation of the skin in the Japanese.

PEMPHIGOID ERUPTION DUE TO BED-BUG BITE. Hanawa, p. 15.

Under the designation of urticaria bullosa atypica e cimicibus, Hanawa reports a case of pemphigoid eruption in a young man, twenty-one years old. The bullæ varied in size from a poppy seed to a hen's egg, were situated on an erythematous base and were filled with clear, sterile fluid.

In contradistinction to urticaria bullosa a cimicibus, in Hanawa's case the characteristic wheal formation and intense itching were absent and the cutaneous œdema was less.

THE TREATMENT OF LEPRA MACULOSA ANNULARIS WITH KOGA'S CYANOCUPROL. Chujo and Takahara, p. 25.

(*Ibidem*, February, 1916, xvi, No. 2.)

AN ADVANCED CASE OF CEREBROSPINAL LUES FAVORABLY INFLUENCED BY SWIFT-ELLIS THERAPY. Miyata, p. 89.

A CASE OF A PELLAGROID DERMATOSIS. Kurita and Sato, p. 101.

(*Ibidem*, March, 1916, xvi, No. 3.)

CHARACTERS OF THE NEW GROWTHS IN XERODERMA PIGMENTOSUM. Nakagawa, p. 216.

Of the eight neoplasms, five were squamous celled carcinoma, one cutaneous horn, one fibroma and one melanosarcoma. The carcinomatous growth metastasize the least frequently while the melanosarcomata the most frequently. Mestastases occur more frequently in males than females. Under therapy, the author recommends early and thorough extirpation, or where this is not possible, radium therapy should be instituted.

AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

(May, 1916, cli, No. 5.)

Abstracted by R. C. Jamieson, M.D.

RESULTS WITH CHOLESTERINIZED ANTIGENS IN NON-SYPHILITIC SERA. C. W. McClure and E. S. Lott, p. 712.

Six hundred and fifty-eight sera from five hundred and one cases were tested, using alcoholic extract as well as chlosterinized antigen, the percentage of error being 1.97 per cent., non-specific reactions being obtained with antigens representing additions of .0125 to .0996 of cholesterin per 100 cc. of alcoholic extract.

The authors conclude from their work that the addition of cholesterin renders the alcoholic extract more sensitive and less specific and therefore not so dependable in diagnosis.

(*Ibidem*, October, 1916, clii, No. 4.)

DIAGNOSIS AND GENERAL TREATMENT OF SYPHILIS. John A. Fordyce, p. 469.

Fordyce emphasizes the importance of early diagnosis by means of the dark-field examination and the Wassermann test, not depending on clinical characteristics, especially in chancroidal infections. Early cases, with a negative Wassermann, under intensive treatment should continue to have a negative, and positive reactions are more easily influenced than in cases of long duration. Variations occur, however, in which there is a persistent positive in the face of negative clinical evidence and seemingly sufficient treatment, or vice versa, positive evidence and a negative Wassermann may require treatment to elicit a positive.

He lays stress on the fact that spinal fluid examination is of utmost importance, not only with regard to the Wassermann, globulin and cells but also to the colloidal gold test which gives a curve in lues that is distinguishable for luetic and paretic conditions, even before there are any symptoms pointing to involvement of the central nervous system.

He considers syphilis in early infections to be curable if sufficient treatment is given, the exact amount being undeterminatble; in secondary lues he precedes his salvarsan by mercury in a soluble form, at the same time watching closely the state of the central nervous system; in latent syphilis the cardiovascular system should be carefully examined before treatment, and he thinks mercury and potassium iodide probably of more value than an occasional salvarsan.

He believes a case cured with a persistently negative Wassermann for one

year, even after a provocative salvarsan, provided there is also a normal spinal fluid.

The article is accompanied by charts representing the results on the Wassermann test after treatment in early infections, after provocative salvarsan and intractable reactions after persistent treatment.

TREATMENT OF SYPHILIS OF THE CENTRAL NERVOUS SYSTEM. HOMER F. SWIFT, p. 490.

Swift states that there is a large percentage of luetics in the secondary stage with involvement of the central nervous system, but the great majority of lesions undergo spontaneous involution as so few show nerve involvement in later years.

He explains the relapse of nerve cases in the secondary cases of lues inadequately treated with salvarsan, on the ground that foci of spirochætæ remained in the tissues and subsequently developed rapidly on account of the lack of tissue immunity.

He emphasizes the importance of the early recognition of tabes and paresis by means of comparatively slight nerve disturbances which ultimately develop into the more serious forms, and thinks the blood and cerebrospinal fluid findings of great help in diagnosis.

The treatment followed was intravenous salvarsan and intraspinal salvarsanized serum, using 15 cc. of whole serum, repeated every two weeks, provided irritation excited is not too great nor the general health depressed.

Patients with involvement of the cerebral meninges or brain should always have preliminary mercury or potassium iodide if gumma is suspected. In secondary and tertiary cases, salvarsan and mercury courses should alternate. In tabes it is recommended to start with weekly small doses of salvarsan intravenously, mercury later and the combined intravenous and intraspinal treatment.

Treatment of tabes gives more marked results than paresis, although the results in the latter are encouraging.

THE PERSISTENCE OF ACTIVE LESIONS AND SPIROCHÆTÆ IN THE TISSUES OF CLINICALLY INACTIVE OR "CURED" SYPHILIS. A. S. WARTHIN, p. 508.

Warthin's article, written from a pathological point of view, takes a decidedly pessimistic view as to the absolute cure of syphilis and gives a brief report of autopsies to prove his statements. In many of the cases autopsied, there had been no suspicion of lues, in some there was a doubtful history and others had received no treatment.

The cases varied from seventy-eight to twenty-four years of age, and in those cases with luetic history, the infection varied from nine to forty or more years in duration. In general, syphilis was found on pathological examination in the cardio-vascular system and the testes in the great majority of cases and in many the spirochætæ were also demonstrated. The spirochætæ found were typical in some cases, in the latent forms especially were found irregular and atypical forms which he believes to be involution forms. He also states that he thinks latent syphilis "will be found to be the chief factor in the production of cardiovascular insufficiency and the cardiovascular-renal complex."

He thinks the present day "cures" only succeed in rendering the disease latent, leaving the organism to exist in the host in a state of symbiosis, these spirochætæ evidently having a very low virulence.

HEREDITARY SYPHILIS IN THE LIGHT OF RECENT CLINICAL STUDIES. B. S. Veeder, p. 522.

Veeder is inclined to disagree with the theory of the paternal transmission of syphilis directly to the offspring by means of the spirochætæ unless the organism undergoes some morphological changes with which we are at present unacquainted, although, on the other hand, seminal transmission does occur.

Of eighty-five mothers of syphilitic children, seventy-three gave a positive Wassermann, although seventy-four had no knowledge of infection and were clinically healthy. He believes the mother to be always infected in hereditary syphilis, though very frequently latent.

In three hundred and thirty-one pregnancies in one hundred syphilitic families, one hundred and thirty-one were abortions or still-births, two hundred living, while of the latter fifty-one died later. The waste, in comparison with the same number of families with contagious disease and those selected at random, ran from 22 per cent. for those selected at random, 26 per cent. with contagious disease and 48 per cent. for syphilitic.

He discusses at length the manifestations of the disease in infants regarding fœtal, infantile, late and latent forms, remarking on the uniformity of lesions in the infantile forms and the varied manifestations in the late cases. He found that there was a combination of general dystrophy with specific lesions as well, while his records show a far greater involvement of the central nervous system than is generally credited.

The Wassermann was positive in 92.6 per cent., doubtful in 1.3 per cent. and negative in 6.1 per cent. in 100 cases, although the whole series gave 98 per cent. positive.

He thinks hereditary lues responds more readily to treatment and uses various methods, including neosalvarsan and mercury.

(*Ibidem*, November, 1916, clii, No. 5.)

A STUDY OF THE INVOLVEMENT OF THE BONES AND JOINTS IN EARLY SYPHILIS. Udo J. Wile and F. C. Senear, p. 689.

It was found that the bones and joints showed far more frequent involvement than is credited, the apparently infrequent involvement being due to lack of complete and thorough examination. The deep, dull pain complained of was thought to be medullary in character, while sharper pain elicited on pressure was periosteal and more easily influenced by treatment than the former. The authors think there is no reason for considering an osteotropic strain of spirochætæ, differential diagnosis offering no difficulties, the most important point being pain during repose.

ARCHIVES OF INTERNAL MEDICINE.

Abstracted by R. C. Jamieson, M.D.

(October, 1916, xviii, No. 4.)

THE ALBUMIN AND GLOBULIN CONTENT OF HUMAN BLOOD SERUM. Albert H. Rowe, p. 455.

Rowe found that in normal serum, albumin varied between 4.6 per cent. to 6.7 per cent., globulin, 1.2 per cent. to 2.3 per cent., total protein, 6.5 per cent., to 8.2 per cent.

With regard to syphilis and the Wassermann reaction, he states that the globulin is definitely increased but that his experiments would lead to the conclusion that the Wassermann reaction is not due to a quantitative increase in the serum globulin.

THE BLOOD PLATELETS IN HÆMOPHILIA. G. R. Minot and Roger I. Lee, p. 474.

This work was done with two cases of hæmophilia and it was found that if a normal amount of normal platelets were added to hæmophilic plasma, the coagulation time became nearly normal, while on the other hand, hæmophilic platelets in seventy-five times the normal quantity shortened the time but did not approach normal.

The authors are inclined to believe that the active coagulation principle of the tissue juice is partly or wholly derived from the blood platelets and conclude that in hæmophilia there is slow availability of platelets for coagulation, due to an hereditary defect in the blood platelets.

METABOLISM STUDIES OF ANGIONEUROTIC ŒDEMA. T. G. Miller and O. H. P. Pepper, p. 551.

The case studied was that of a woman with transient attacks of œdema with, sometimes, convulsions.

The authors conclude from their work that the attacks of œdema were associated with nitrogen retention, the excretion of acid bodies, not being altered. Sodium chloride excretion is diminished preceding the swelling and increased after it, but the convulsions were not associated with the nitrogen balance. The œdema appeared to be influenced favorably by a low chloride intake but the convulsions were unaffected.

(*Ibidem*, November, 1916, xviii, No. 5.)

THE RELATION OF RECURRENT ATTACKS OF PELLAGRA TO RACE, SEX AND AGE OF THE PATIENT AND TO TREATMENT OF THE DISEASE. J. F. Siler, P. E. Garrison, W. J. MacNeal, p. 652.

From a study of the compiled statistics it was found that both sexes and both races were about equally subject to recurrence, the death rate, however, in recurrent attacks being 12.3 per cent. as compared with 16.2 per cent. in the initial attack. The death rate was higher in both races for males, while white females with an initial attack before the age of ten years, showed the least tendency to recurrence. Children also showed greater improvement and recovery than adults, recurrence in young women being frequent even after one or more years of freedom from the disease, the highest percentage of recurrence being in white males over 44 years old. Resistance to recurrence is definite about puberty and remains longer in males than in females.

Diet and hygiene have hastened recovery from acute attacks but recurrence has been the rule in the majority of cases, although a severe attack seems to lessen the liability of recurrence. Other conditions should be treated as required and general tonic treatment should be continued for at least a year after recovery from an acute attack.

JOURNAL OF TROPICAL MEDICINE AND HYGIENE.

Abstracted by R. C. Jamieson, M.D.

(Sept. 1, 1916, xix, No. 17.)

DERMATITIS DUE TO THE SECRETION OF A BEETLE IN BRITISH EAST AFRICA. Philip H. Ross, p. 202.

The beetle causing the dermatitis belongs to the genus Paiderus and is 1 cm. long by about 2 mm. broad. The fluid causing the inflammation is apparently

excreted only when the beetle is irritated. The lesions occur on exposed surfaces, are painful and appear as a bright vesicular streak or patch, as though some strong acid had been applied.

(*Ibidem*, Feb. 15, 1916, xix, No. 4.)

NOTE ON DERMATITIS CUPOLIFORMIS. Aldo Castellani, p. 41.

The author describes a tropical ecthyma which occurs on the legs and feet of Europeans, and which is due to a "Streptococcus tropicalis." The lesions begin as small spots, become deeper red, infiltrated, elevated and break down without pustulation to form an ulcer with undermined edges. Treatment, locally, is of slight use but autogenous vaccines rapidly heal the lesions.

(*Ibidem*, Apr. 15, 1916, xix, No. 8.)

MADURA FOOT IN TRINIDAD. R. Seheult, p. 91.

The case is reported on account of its rarity in the New World—none having been reported in the British West Indies. The disease occurred in an East Indian and seemingly followed an injury sustained in 1908. Three years after injury, lesions appeared and progressed typically with sinus formation, pus and dark, roe-like granules. Amputation was successfully performed, microscopical examination showing filaments of Streptothrix mycetomi.

BLASTOMYCOSIS (?) IN CENTRAL AFRICA. A. Yale Massey, p. 79.

The author cites twelve cases observed in four years, closely resembling blastomycosis and on which salvarsan had no effect. The photographs show the skin over the tibia affected with nodular protuberances with numerous discharging sinuses. One case had lesions on the neck and in the submaxillary region. Curettings examined in Europe were stated to be of mycetome origin but no cultures were made to prove the diagnosis.

BULLETIN OF THE JOHNS HOPKINS HOSPITAL.

(August, 1916, xxvii, No. 306.)

Abstracted by R. C. Jamieson, M.D.

A TREATMENT FOR PRURITUS ANI. H. B. Stone, p. 242.

This method was used in seventeen cases, in two years, without much pain accompanying the injection and only a slight soreness, followed by numbness. Itching stops at once, anæsthesia of the area supervenes and the sphincteric action is unimpaired if the technique is not faulty. The skin takes on a healthier tone and itching is allayed indefinitely—eight months being the earliest recurrence.

The technique is as follows: the itching area is injected with 1 per cent. novocain or quinine and urea hydrochloride, 95 per cent. alcohol is then injected *under* the skin, enough being used to thoroughly underlie the skin. Too deep an injection may cause paralysis of the sphincter, too superficial will cause sloughing.

ARCHIVES OF PEDIATRICS.

(March, 1915, xxii, No. 3.)

Abstracted by HARVEY PARKER TOWLE, M.D.

THE DIETETICS OF ECZEMA. GEORGE D. LYMAN, p. 175.

"It has long been decided that eczema is not purely an acute or chronic inflammation of the skin. If it were it would respond to local treatment alone. . . . So important a feature is diet in the treatment that it is a question whether eczema should be handled by the dermatologist or the pediatrician. At least they should coöperate, as a proper regulation of the diet accelerates a healing of the local condition." These quotations fairly present the basis of the author's thesis.

Lyman divides eczema into two groups; one, in which the patient is overnourished and overweight, but thriving, in whom signs of eczema have existed since birth; and a second, in which eczema seems to have been provoked by disturbances of the intestines.

He sums up the results of dietetic treatment somewhat as follows. The variety of claims is great. In some cases it is enough for cure to reduce the quantity of food; in some, it is necessary to increase it; and, in some, a complete change of diet is required.

In uncomplicated cases of eczema, the percentage of fats and carbohydrates seem to be at fault. In some cases, the salt assimilation is altered. In the more chronic cases, there is often a disturbed protein digestion or a secondary intestinal infection. In still other cases, a diet rich in vegetables and carbohydrates and poor milk is necessary to cure.

Of several things, however, we are certain—that local treatment alone or dietary treatment alone are unsuccessful. It is necessary to join forces, for the dermatologist and the pediatrician to proceed hand in hand; that in all cases of eczema it is necessary to make a thorough, complete examination of the stools for signs of indigestion, and that above all else it is necessary to know and study your baby.

(*Ibidem*, May, 1915, xxxii, No. 5.)

REPORT OF THE TWENTY-SEVENTH ANNUAL MEETING OF THE AMERICAN PEDIATRIC SOCIETY. Lakewood, N. J., May 24, 25 and 26, 1915, p. 333.

This number of the Archives contains a full report of the three days' proceedings of the American Pediatric Society. Although written from the pediatrist's point of view, several papers were of considerable dermatological importance. As, however, they will undoubtedly be published in full, elsewhere, it is not here advisable to give more than their outlines and a résumé of the discussions whose value was often equal to that of the paper.

Dr. Royal Storrs Haynes, of New York, contributed a paper on Ductless Gland Therapy (p. 344), whose interest to dermatologists, while indirect, is nevertheless real. The paper resulted from observation of a case in which the earlier symptoms seemed to indicate thyroid deficiency and the later to indicate that there was also the complication of a deficiency of the pars intermedia of the pituitary. Dr. Herman drew the conclusion that Dr. Haynes' case supported his contentions that, frequently, more than one of the glands was affected and that there existed a certain correlation between the so-called ductless glands. On this basis, the combined treatment of extracts of the thyroid, suprarenal and pituitary glands was better than thyroid treatment alone.

Because of the relationship which disturbances of the digestive metabolism

bear to the production of infantile eczema and of various dermatoses accompanied by signs of systemic vasomotor poisoning, the dermatologist will find suggestive the report, by Dr. E. W. Saunders and Dr. T. Wistar White of St. Louis (p. 348), of twelve infantile cases of milk idiosyncrasy.

Of more immediate interest was a paper by Dr. Oscar M. Schloss, of New York (p. 349), on Allergy to Common Foods, based on the study of 34 cases. It was unusual to find idiosyncrasy limited to a single food. Most often it was manifested towards one or more members of a group of foods comprising milk, egg, beef, horse protein, wheat, rice and other cereals and foodstuffs. Among the most frequent symptoms were urticaria and angioneurotic œdema, either appearing immediately in the labial, buccal and pharyngeal membranes or being delayed from one-half to three hours before manifesting symptoms involving the whole body.

Dr Schloss regards the relationship of eczema to food allergy as very interesting. He had seen 18 cases of severe eczema in every one of which there was a cutaneous reaction to the proteins of one or several foods. *"In many instances, the withdrawal of the food to which the most striking disturbances were due, was not followed by a disappearance of the eczema, but since the cutaneous reaction was practically always manifested toward several foods, it was quite possible that the eczema might be due to some unsuspected food substance."*

A second group of cases manifested the effects of food toxæmia by asthma or asthmatic bronchitis. In a third group, the symptoms were gastro-enteric and, in a fourth, eosinophilia was the characteristic sign.

Wherever complete tests had been made, the proteid food constituent was always found to be the guilty one. As a result of several conditions, the cutaneous test was sometimes lacking. Dr. Schloss has also noticed that the immunity secured by treatment was apparently not permanent. For instance, patients once immunized to egg did not remain immune unless comparatively large amounts of egg were administered continuously. Moreover, certain anti-anaphylactic experiments seemed to indicate that, even in the face of continuous administration, there might be cycles of anaphylactic disturbances.

(*Ibidem, August*, 1915, xxxii, No. 8.)

RELATIONSHIP OF SYPHILIS TO CHOREA OF SYDENHAM. HENRY KOPLIK, p. 561.

Koplik undertook to satisfy himself as to the truth or falsity of the growing theory of an ætiological connection between syphilis and chorea. He comments briefly upon the cases which had been used to support the theory and decides that the diagnosis was wrong in most instances. The cases were not the true chorea of Sydenham.

Koplik admitted 11 cases of chorea to his hospital service. In 10, the Wassermann test was made. Eight tests were negative and in 2 the reaction failed but was not positive. No case had the stigmata of syphilis nor did any have a history of syphilis in the family.

A comparatively large number of cases of chorea have been reported in which the positive Wassermann was considered justification for a diagnosis of syphilis. Koplik remarks, "There is no reason why, had I subjected a large number of cases to the Wassermann test, I should not eventually meet cases in which it might be established that syphilis was present, either in the form of some lesion, or with the Wassermann reaction. For a child affected with syphilis might contract chorea just as readily as another, yet that would hardly prove the rule, to my mind."

Koplik treated 9 cases with neosalvarsan. The results failed completely to confirm the claims of wonderful effectiveness.

Koplik's final conclusion is, "I do not think that we have in salvarsan an agent of any value above what has hitherto been in vogue in the treatment of chorea minor, nor do I feel that we are warranted in tracing any relationship between the chorea of Sydenham and hereditary or acquired syphilis."

(*Ibidem*, September, 1915, xxxii, No. 9.)

PROPHYLACTIC VACCINATION FOR VARICELLA. Sophie Rabinoff, p. 651.

During an epidemic of varicella in the wards of the Hebrew Infant Asylum during the winter just passed, the opportunity presented itself to try out prophylactic vaccination. Inoculations of this kind have been described by Kling, of Stockholm, and were repeated later by Handrick.

In pursuing his work, Kling used the following technique: The vesicle of a fresh case of varicella was used as the source of the virus. This was pierced with a "vaccination lancet." Several superficial skin punctures were made for the purpose of vaccination, taking care not to draw blood. After making three punctures, the lancet was introduced into a fresh vesicle and the inoculations carried to a total of six. Kling emphasizes the necessity of obtaining the virus from a case in the early stage of the disease, when the contents of the vesicle are clear and the vesicle itself is surrounded by a slight red areola. In his experience, only 5 per cent. of the vaccinated cases showed reaction at all the points of inoculation although, in every case, at least one point showed some reaction. This appeared about the eighth day in the form of a vesicle or a group of vesicles, which very soon dried up, leaving a slight scar.

There were 95 children in his institution. Among the 64 unvaccinated cases; about two-thirds developed varicella, whereas, among the 31 vaccinated, only one showed a generalized distribution.

The method Rabinoff used was similar to that of Kling, except that, instead of multiple punctures, small scarifications were made on the arm to be vaccinated. In the first group of cases vaccinated, comprising about 50 children, only one scarification, about ⅛ inch long, was made, with the result that the local reaction was either very slight or did not occur at all. In the subsequent group, comprising about 60 children, three or four scarifications were made. In the latter series, a slight reaction occurred which could not be called typical, except in one instance. Three scarifications were made in this particular case. About the tenth day there appeared a slight areola at one point of scarification. This went, in regular sequence through all the stages of papule, vesicle, pustule and crust and healed after the manner of an ordinary vaccination lesion. In none of the vaccinated cases was there any evidence of systemic disturbance.

Among 142 susceptible children, 114, about 75 per cent., developed varicella. In the group of 76 vaccinated children, there were only six cases, or about 8 per cent. of the total number. Of these 6 cases, 2 cases developed on the day following vaccination; 2, seven days later; 1, nine days; and the last, ten days later. In other words, all the cases among the vaccinated children developed inside the incubation period of the disease, which is about sixteen days.

(*Ibidem*, October, 1915, xxxii, No. 10.)

SCARLATINA: MORBIDITY AND CASE FATALITY BY LOCALITY, SEX, AGE AND SEASON. (Based on study of over a million cases.) Henry H. Donnally, p. 767.

Before the Pediatric Section of the New York Academy of Medicine, Dr. Donnally reported the results of his analysis of over 7,000,000 reports from

widely separated sources. After rejecting the uncomplete records, about 2,000,000 remained. The conclusions may be curtly summarized as follows:

Certain families possess a peculiar susceptibility to scarlet fever.

Individual susceptibility varies. Fat, flabby, overnourished children suffer most severely.

In approximately 2,000,000 patients, the case fatality was 5.25 per cent. and the morbidity rate, 3.9 per cent.

The number of cases differed greatly, not only in different countries and cities, but also in different parts of the same locality.

Everywhere, scarlet fever is endemic.

The morbidity rates showed passing fluctuations but no striking reductions.

Notwithstanding the lack of specific treatment, the case fatality has shown a pronounced and consistent decline during the past half century.

January and December usually have the greatest number of cases and August and September the smallest, but the height of an epidemic may occur at any season.

The relation of male and female cases is almost the same as the ratio of males to females in the total population. During the first five years of life, the males are the more susceptible and, from five to fifteen, the females. The number of deaths is both relatively and absolutely greater among males.

Nearly 50 per cent. of the total cases occurred between three and seven years, the number of cases being about equally distributed through these years. Under one year and over fifteen, susceptibility is about 1 per cent.

Few adults, though exposed, become infected.

Ninety per cent. of the deaths occur under ten years of age. Between ten and fourteen years, the rate drops to 1 per cent.

SCARLATINA: SOME UNUSUAL AND SEVERE TYPES. Henry M. Berg, p. 765.

In a paper delivered before the Section of Pediatrics, N. Y. Academy of Medicine, Dr. Berg classified the severe types of scarlatina as, (1) severe toxic; (2) toxic hæmorrhagic; and, (3) septic.

(1) The severe toxic type is characterized by persistently high temperature, with no attempt at resolution; by a rash, either very severe or absent, except for a collar; by a punctate eruption which is blue or almost purple, showing white upon compression. The prognosis is uncertain although recovery may occur.

(2) The toxic hæmorrhagic type is differentiated by its cerebral symptoms, resembling meningitis, of which coma is the chief. The other diagnostic phenomena of meningitis are not constant. The urine contains albumin but casts are rare without hæmorrhage. A few cases have a mild adenitis and a punctate rash. The characteristic skin eruption is petechial and is accompanied by hæmorrhages into the mucous membranes and the internal organs. The prognosis is invariably fatal.

(3) The septic type is characterized by a severe scarlatina plus the influence of a pus organism. The symptoms somewhat resemble diphtheria because of the angina. Unlike the toxic cases, vomiting is not persistent, rarely occurring more than once. The temperature is high from the beginning and follows the course of ordinary septic fevers. One of the most important signs is enlargement of the glands at the angles of the jaw. When extensive, there results the condition known as the Cardinal's neck. Different organisms may cause the angina but, in three-fourths of the cases, it is a streptococcus. The prognosis of the septic form is better than that of the toxic.

BOSTON MEDICAL AND SURGICAL JOURNAL.

Abstracted by Oscar L. Levin, M.D.

(Nov. 9, 1916, clxxiv, No. 19.)

SYPHILIS OF THE LUNGS. Nathaniel K. Wood, p. 677.

In the eleven cases reported by the author there were signs and symptoms of pulmonary disease, no tubercle bacilli in the sputum, and the von Pirquet tests were negative. A history of lues was obtained in each case. The sera showed positive Wassermann reactions and the X-rays revealed syphilitic changes in the bones. All the patients improved after a course of mixed treatment. In view of the fact that autopsies rarely show syphilitic involvment of the lungs, the author hesitates to state positively that these are cases of syphilitic pulmonary disease, but suggests a more thorough search for pathological corroboration when clinical observation and therapeutic tests point toward lues.

CONTROL OF SCARLET FEVER. D. M. Lewis, p. 682.

The control of scarlet fever depends upon the supervision of reported cases and carriers, who are responsible for the missed as well as the reported ones. Carriers are divided into two groups: those individuals having ear or gland discharges at the end of convalescence, and those who have had the disease previously. Both groups must show evidence of buccal-pharyngeal inflammation, characteristic of scarlet fever, to be infective. The author states that he has abolished recurrent cases, made infrequent secondary cases, and lessened reported cases by demonstration and isolation of carriers.

(*Ibidem*, November 16, 1916, clxxv, No. 20.)

MEASLES AND THE PUBLIC HEALTH. Edwin H. Place, p. 704.

The primary lesion of scarlet fever occurs usually in, or in the neighborhood of, the tonsils and from there may spread to other parts, even to the lungs and œsophagus. The author infers from his observations that scarlet fever is caused by a strongly gram-positive bacillus which is less virulent than the diphtheria bacillus, but which practically invades the same localities. The toxine causes necrosis and desquamation of the covering epithelium and leads to an exudation of serum and polymorphonuclear leucocytes. Because of the slight formation of fibrin the primary lesions are inconspicuous and easily overlooked. The bacillus of scarlet fever dies quickly in the lesions and it is therefore difficult or impossible to demonstrate it after two or three days, but it opens the way for streptococcus invasion and seems to favor its growth.

The bacillus of scarlet fever may be obtained in smears or cultures. The organism is a strongly gram-positive bacillus, staining well with ordinary dyes and showing a tendency to irregularity of staining in lightly stained preparations. This irregularity of stain is also noted in too strongly decolorized preparations. No polar bodies are present. It is smaller than the diphtheria bacillus and varies from coccus-like to large bacillary forms.

The bacilli are facultative æcobes, and grow best anærobically upon serum-glycerin (3 per cent.)—dextrose (5 per cent.)—agar.

SCARLET FEVER. Charles V. Chapin, p. 715.

ÆTIOLOGY OF SCARLET FEVER. F. B. Mallory, p. 713.

MEDICAL TIMES.

Abstracted by Oscar L. Levin, M.D.

(November, 1916, xliv, No. 11.)

THE PROGNOSIS OF SYPHILIS. D. A. Sinclair, p. 328.

The prognosis of syphilis depends upon the following factors: 1. The time from the date of the infection; 2. The kind and amount of treatment; 3. The parts at present affected by the disease; 4. The Wassermann test; 5. That from three to five years are required for a complete cure.

NEW YORK STATE JOURNAL OF MEDICINE.

Abstracted by Oscar L. Levin, M.D.

(November, 1916, xvi, No. 11.)

ECZEMA IN INFANTS AND YOUNG CHILDREN. Charles Gilmore Kerley, p. 523.

An article dealing with dietetic régime.

MEDICAL RECORD.

(Nov. 4, 1916, xc, No. 19.)

Abstracted by W. H. Guy, M.D.

ANAPHYLAXIS TO MERCURY—WITH REPORT OF A CASE. M. Zigler, p. 805.

(*Ibidem*, Dec. 2, 1916, xc, No. 23.)

LUPUS ERYTHEMATOSUS AND TUBERCULOSIS. Louis B. Mount, p. 983.

A survey of the literature with particular reference to the question of ætiology. Contrasted views of various authors are noted. Particular attention is directed to the attempts to clarify the subject by animal inoculations and bacteriological investigations. The author states that the work of Bloch and Fuchs gives grounds for their belief that lupus erythematosus of the chronic type may be due to an infection with the tubercle bacillus, perhaps of lowered virulence or of another variety, upon a soil which in the majority of cases reacts in an atypical manner.

(*Ibidem*, Dec. 9, 1916, xc, No. 24.)

THE SCOPE AND TECHNIQUE OF X-RAY THERAPY. Isaac Levin, p. 1015.

In an introductory manner the author speaks of the relation that X-ray bears to the spectrum. It is noted that light is a necessity to the animal

organism; that therapeutic measures generally to be effective must affect the metabolism of the cell; that physical methods of therapy are viewed with distrust; and that therapy, whether chemical or by physical means as typified by the X-ray, produces its effects by bringing about changes in cellular metabolism. A comparison is drawn between the action of the arsenicals and X-ray—they act in a similar manner, in that in small amounts they stimulate cell metabolism and growth, and in that in large doses they have a selective action for embryonic or highly specialized cells.

Physically, X-rays are considered analogous to light in that they move in straight lines, they traverse space freely, they act upon photographic plates, excite certain materials to phosphorescence and bring about ionization of gas; differing, however, in that they are not deflected by prisms, and in that the wave lengths are infinitely shorter. X-ray acts upon a substance by primary rays and to a less extent by secondary rays from the tube and these in turn set up secondary rays between ions, thus producing changes in metabolism. Action of the ray depends on penetration, absorption, selective action, etc., and it is only when the wave length is correct that selective action takes place and one obtains a therapeutic effect. The biological effect of the X-rays are analogous to light rays in that they may produce erythema, burns, bronzing, etc. The effect varies with hardness or softness of rays, which depend upon relative wave lengths. Inasmuch as the action of the ray is most marked on cells of the embryonal type, the therapeutic effect is marked in malignant tumors where vacuolization of protoplasm, pycnosis of nuclei and necrosis of cells, accompanied by round cell infiltration and followed by secondary fibrosis, is noted. The effect is similar in the infective granulomata.

As to technique, the author speaks particularly of the Coolidge tube. The tube is described in detail and is recommended because of greater output and greater uniformity of penetrations. Experimental studies comparing the Coolidge with other tubes showed greater efficiency of the former. Cross firing to obtain better deep therapy is described. The author's technique, which is of the indirect type, is described. A chart is appended showing certain of the diseases treated successfully by the X-ray, as follows:

(1.) Inhibiting Cell Proliferation.

Keloid, angioma, verrucæ, uterine fibroid, prostatic hypertrophy, carcinoma, sarcoma, the lymphomata and granulomata.

(2.) Inhibiting Cell Functions.

Metropathia, uterine fibroid, exophthalmic goitre, acromegaly, leucæmia and status lymphaticus.

NEW YORK MEDICAL JOURNAL.

(Nov. 4, 1916, civ, No. 19.)

Abstracted by W. H. Guy, M.D.

PRIMARY SYPHILIS OF THE RECTUM. W. E. Jost and R. B. H. Gradwohl. p. 893.

Cephalic chancres constitute perhaps seventy-five per cent. of extragenital chancres. Most of them occur upon the lips, indicating that transmission is by kissing. As for anal chancres, they are observed in women more than in men, usually a *praepostera venere;* in men this is always the case. They are classified as anal, perianal and rectal. It is to the last class that the case reported belongs. The perianal chancre resembles a fissure in appearance. The edges are everted and the base is indurated. More than anything we

know, its appearance may be compared to an anal fissure that has been cauterized. The anal chancre may be intraanal and may not be seen unless the anal opening is stretched. According to Fournier, it appears as a mere red erosion, composed of two segments which fold upon each other like the leaves of a book. The true rectal chancre, which is very rare, is situated three to four cm. above the sphincter. Bogrow observed one as high up as eight cm. Often it is discovered only in a patient with already pronounced secondaries, where, after searching in vain for an initial lesion, we are told by the patient that he has had pain upon defæcation and that the discharges are colored red from blood. By speculum examination the lesion is then discovered.

It has been noted that there is an accompanying lymphadenopathy in these cases in the external inguinal glands, as was the case with the authors' patient. It must be remembered that inguinal gland enlargement occurs in these cases through the anastomoses between the lymphatics in the concavity of the sacrum and those in the groin. A case is reported.

(*Ibidem*, Nov. 18, 1916, civ, No. 21.)

TESTICULAR SYPHILIS. M. Zigler, p. 998.

Three cases are reported, two of which were gummata. Attention is called to the comparative rarity of testicular gumma and also to the fact that the symptoms closely simulate those of tuberculosis. The paper urges the Wassermann as a check to diagnosis in cases of this type and warns against errors in diagnosis.

(*Ibidem*, Dec. 30, 1916, civ, No. 27.)

ECZEMA IN CHILDREN. George W. Crary, p. 1274.

This paper deals with the causes of eczema in infants, with particular reference to the dietary origin of certain cases and the author outlines his treatment.

A NEW METHOD FOR INTRASPINOUS TREATMENT OF NEURAL SYPHILIS WITH MERCURY. Maurice F. Lautman, p. 1281.

The author's method comprises pushing mercury to the point of tolerance, obtaining the blood serum, reinforcing this by addition of a solution of mercuric benzoate in normal saline, removal of as much spinal fluid as can be obtained and injecting the serum-mercury preparation, the total amount injected being less than that removed, so as to create a negative pressure within the dural cavity.

Excellent results are reported.

THE ROLE OF SYPHILIS IN THE INSANE NEGRO. Louis Wender, p. 1286.

Report of findings in 106 cases admitted to the government hospital for insane at Washington, D. C., of which fifty-two were syphilitic.

PROCEEDINGS OF THE ROYAL SOCIETY OF MEDICINE

(June, 1916, ix, No. 8.)

Abstracted by W. H. Guy, M.D.

CASE OF PARAKERATOSIS VARIEGATA OF THE TYPE DESCRIBED BY JULIUSBERG AS "PITYRIASIS LICHENOIDES CHRONICA." E. G. Graham Little, p. 139.

Notable in this report were the sudden onset simulating measles, later becoming a universal pityriasis with points of accentuated redness as com-

pared with the bluish red tone, constituting indefinite maculo-papules and a shadowy network. Treatment had no effect on the course of the disease. The histology was not characteristic.

LICHEN SCROFULOSORUM. E. G. Graham Little, p. 142.

Report of a typical case seemingly due to injections of tuberculin, administered to a patient suffering from scrofulodermia.

ACUTE DISSEMINATED TUBERCULOSIS CUTIS. E. G. Graham Little. p. 144.

Report of a case with sudden onset, in an infant aged seven months, suffering from glandular tuberculosis. The eruption comprised closely set bluish nodular lesions limited to the lower extremities. The histology confirmed the diagnosis. The eruption practically disappeared upon surgical removal of the glands.

TERTIARY SYPHILIS. George Pernet, p. 146.

A case treated by intramine injections with improvement in clinical symptoms.

MYCOSIS FUNGOIDES. J. J. Pringle, p. 147.

A case in which the diagnosis was obscured or even made doubtful by the presence of a positive Wassermann and some plaques resembling parapsoriasis. One large granulomatous patch had been improved by a full unfiltered pastille dose of X-ray. In the discussion the arseno-benzol compounds are mentioned as being distinctly harmful in this disease.

ASPHYXIA RETICULARIS. Dudley Corbett, p. 152.

Report of a case diagnosed as above with a second choice of "livedo annularis." During discussion, Drs. Samuel, MacLeod and others suggested a diagnosis of reticulated lichen planus.

CARCINOMA OF THE FACE. J. J. Pringle, p. 156.

Report of a case occurring in the course of xerodermia pigmentosa treated by a massive dose of radium, with marked improvement.

ACNE. J. H. Sequeira, p. 156.

Report of a case of unusual severity.

URTICARIA PIGMENTOSA. George Pernet, p. 157.

A typical case, exhibiting the characteristic pigmented spots in an artificially fed infant, which improved upon correction of dietary errors.

KERATODERMIA BLENORRHAGICA. E. G. Graham Little and P. A. Hayne. p. 159.

Report of a case with formation of hard, waxy, brownish scabs in a cachectic patient suffering from a urethritis.

CHEMOTHERAPY. J. E. R. McDonagh, p. 165.

One of a series of articles discussing the various phases of this subject with case reports attached, illustrating the points made.

(*Ibidem*, July, 1916, ix, No. 9.)

A NEW TEST FOR SYPHILIS. J. E. R. McDonagh, p. 192.
A preliminary report of a precipitation test for syphilis.

PITYRIASIS RUBRA PILARIS. W. Knowsley Sibley, p. 193. p. 222.

Report of a case improving under influence of X-ray.

DARIER'S DISEASE. E. G. Graham Little, p. 196.
A case is presented with typical keratosic excrescences which began on the forehead, scalp, chin and neck, spreading over the chest, abdomen and back. The microscope gave the classical picture.

LICHEN PLANUS HYPERTROPHICUS. H. C. Samuel, p. 200.
Report of a case.

DERMATITIS HERPETIFORMIS. Alfred Eddowes, p. 202.
A case with unusual distribution and in which the diagnosis was questioned during discussion.

XANTHOMA TUBEROSUM. E. G. Graham Little, p. 209.
A case report.

TUBERCULOUS DISEASE OF THE FACE. J. G. Stowers, p. 211.
An unusual case of lupus vulgaris of five years' standing, in a girl aged 18½ years.

DERMATITIS HERPETIFORMIS. George Pernet, p. 213.
Presentation of a case in which the diagnosis was questionable.

EXTENSIVE EXUBERANT LUPUS VULGARIS OF THE LEG, ORIGINATING FROM A TUBERCULOUS ABSCESS. George Pernet, p. 214.

MULTIFORM LUPUS VULGARIS FOLLOWING MEASLES WITH SPONTANEOUS INVOLUTION OF SOME OF THE LESIONS. George Pernet, p. 215.

URTICARIA PIGMENTOSA, pp. 215 and 216.

Two cases reported by W. K. Sibley and Graham Little respectively.

LICHEN OBTUSUS CORNEUS. W. Knowsley Sibley, p. 218.

Numerous discrete, disseminated, whitish, dry, hard, round, dome shaped nodules, almost cartilaginous in consistence scattered over the dorsum of the hands and extensor surfaces of the forearms, knees, feet and ankles. The leisons were pea sized with scratched tops and central crateriform depression, sometimes filled with hæmorrhagic plugs. Histologically, the following features were noted: hyperkeratosis of the stratum corneum, thickening of the stratum granulosum and rete with elongated pegs. Only a small portion of the corium was in the specimen, but it contained dilated blood vessels and an increase of connective tissue and spindle cells. In the discussion, Drs. Little, MacLeod and Adamson considered the case an unusual case of lichen planus. Dr. Adamson called attention to the marked resemblance of this case to the one reported by C. J. White in the *Journal of Cutaneous Diseases*, in 1907.

KAPOSI'S MULTIPLE PIGMENTARY SARCOMA. W. Knowsley Sibley, p. 222.

BULLETIN OF THE DEPARTMENT OF PUBLIC CHARITIES OF NEW YORK CITY.

(June, 1916, i, No. 1.)

Abstracted by W. H. Guy, M.D.

HUMAN GLANDERS. N. B. Potter, p. 5.

Report of three cases, one of which was unsuccessfully treated with autogenous vaccine.

INTRASPINAL ADMINISTRATION OF MERCURIALIZED SERUM. Livingston Hunt, p. 76.

Forty-five cases were treated, some wth mercuric chloride, the others with sublamin (ethelendiamin-mercury sulphate). The cases treated comprised tabes, general paresis, cerebrospinal syphilis, taboparesis, clinical tabes and syphilitic hemiplegia. The technique is described in detail and the author concludes as the result of this work that:

1. The reaction from mercuric chloride or sublamin in no way differed from the reaction which followed the administration of salvarsan.
2. The sublamin did not seem to give the same reduction in the cell count or clinical improvement as did the mercuric chloride.
3. No ill results followed these injections. The three deaths could easily be accounted for, as the patients were practically moribund at the time of the treatment, and were given the injections as a last resort.
4. The patients with tabes and cerebrospinal syphilis were helped more than any others.
5. Such improvement as did occur was evident in the feelings of the patient, in the sphincter control, in the pains, in the gait and in the serology. There was no improvement in the reflexes.
6. Such intraspinal treatment can be given only at intervals of two weeks, because a cell count does not fall sooner.
7. The action obtained was one in which the cell count was first greatly increased and then diminished.
8. The cell count and the globulin yielded much sooner than did the Wassermann.

UNITED STATES PUBLIC HEALTH SERVICE.

(Nov. 17, 1916.)

Abstracted by W. H. Guy, M.D.

THE TRANSMISSIBILITY OF PELLAGRA. EXPERIMENTAL ATTEMPTS AT TRANSMISSION TO THE HUMAN SUBJECT. Joseph Goldberger, p. 3159.

Sixteen volunteers were subjected to experiment. With one exception, all were men and varied in age from 26 to 42 years. No restraints were imposed on their customary habits or activities.

Seventeen cases of pellagra of various types and of different grades of severity furnished some one or more of the experimental materials.

The materials were blood, nasopharyngeal secretions, epidermal scales from pellagrous lesions, urine and fæces. Blood was furnished by 4 of the cases,

nasopharyngeal secretions by 4, epidermal scales by 5, and urine or fæces by 16, of whom 10 furnished both urine and fæces, 3 urine without fæces, and 3 fæces without urine.

Blood was administered by intramuscular or subcutaneous injection; secretions by application to the mucosa of the nose and nasopharynx; scales and excreta by mouth.

Both urine and fæces were ingested by 15 of the volunteers, 5 of whom also took blood, secretions and scales.

The experiments were performed at four widely separated localities (Washington, D. C.; Columbia, S. C.; Spartanburg, S. C., and New Orleans, La.), at which different groups of the volunteers were assembled.

Observation has been maintained by association with a majority of the volunteers and by visits of inspection, supplemented by reports from the volunteers themselves, 13 of whom are physicians, and by reports from other medical officers of the service with whom they are associated. During a period of between five and seven months none has developed evidence justifying a diagnosis of pellagra.

These experiments furnish no support for the view that pellagra is a communicable disease; they materially strengthen the conclusion that it is a disease essentially of dietary origin, brought about by a faulty, probably "deficient" diet.

OBITUARY

THOMAS COLCOTT FOX

In the death of Thomas Colcott Fox, which occurred on April 11, 1916, in his 68th year, British Dermatology suffered the loss of one of its most earnest and talented students.

He was the son of a country physician and the country boy's love for outdoors remained with him through life. He was an enthusiastic all around sportsman; cricket of course, skating, and in later years golf; and in all these he excelled. He was educated at Cambridge and took his medical degree at London University in 1876. It was no doubt the brilliant career of his brother, Tilbury Fox, that attracted him to Dermatology, and he was fortunate in securing an appointment early in life as Dermatologist to Westminster Hospital, a post which he held to the end of his life. He was also, for various periods, Physician to the Victoria Hospital for Children, to the Skin Department of Paddington Green Hospital for Children, and Visiting Dermatologist to the Ringworm Schools of the Metropolitan Asylums Board. The fruits of his wide experience in the dermatoses of childhood have appeared in numerous contributions to our science.

All of Colcott Fox's work as a dermatologist is characterized by an unusual degree of thoroughness and exhibits an extraordinary familiarity with the literature of his subject, rare powers of observation, and keen critical judgment. He was not a voluminous writer; he wrote no text-book, his name is not associated with any startling discoveries; but, as his friend Pringle says of him, "There is no doubt that Colcott Fox influenced British dermatology more powerfully than any of his contemporaries and all our most prominent dermatologists of the present day must be included among his pupils."

In the forty years of his activity—his name appears with that of his brother as part author of the *Epitome of Skin Diseases* in 1876—he made an enviable record of achievement. He was the first to describe lymphangioma circumscriptum, he wrote the first description of the disease now known as angiokeratoma and his cases of "ringed eruption" were the first recorded cases of the disease now known as granuloma annulare. His paper on urticaria in infancy and childhood was a masterpiece of clinical research. In addition to purely original work he was active in presenting to his English-speaking colleagues many forms of skin disease of which they had but little knowledge. Among these may be mentioned pityriasis rosea, the acneiform tuberculides and the erythema induratum of Bazin. It is characteristic of Fox that though the science of bacteriology was not yet born when he received his degree in medicine, and microscopy almost unknown, he developed and maintained throughout his life an active interest in these subjects. His studies on the ringworm fungi are among the most valuable in the English language. For many years he and Pringle acted as Secretaries of the London Dermatological Society, founded in 1882, and merged with the Royal Society of Medicine in 1907—and in the latter year he published a series of selected cases from the wealth of material that had been exhibited before the Society. He was a corresponding member of the American Dermatological Association.

To the circle of his friends his passing leaves a painful wound. He was one of the most lovable of men. Modest and retiring, almost shy, he was the most generous of friends. He probably never in his life harbored an unkind thought of anyone; the one object of his quiet scorn was sham or untruthfulness in any form. His kindly appreciation and generous recognition of the efforts of younger men served as the best stimulus to their work. His contributions to our science and his influence on British Dermatology, may well constitute his monument.

—S. P.

WILLIAM ALLAN JAMIESON

Dr. Jamieson died on April 21, 1916, after a long illness. He had reached the age of 77 and in the course of his long pioneer struggle had placed the study of dermatology on a firm basis in Scotland.

He began his career on a sheep run in Queensland, but finding this occupation uncongenial, returned to Edinburgh to study medicine. He graduated in 1865 and took up general practice for a time in Preston. Dermatology always exerted an attraction on him from his student days under Hughes Bennett. Douglas Maclagan, who followed Bennett, advised him to go Vienna to become a pupil of Hebra. After his return, began the struggle for recognition until by way of the City Hospital and a lucky stroke with Unna's zinc gelatine, he broke through the opposition and was made Extra-Ordinary Physician for Diseases of the Skin. The students with their usual clear sight found him out and their increasing numbers caused the authorities to let him use the West Medical Theatre instead of his early cramped quarters. There he taught for twenty years.

He was a prolific writer, contributing over a hundred papers to various journals besides critical summaries of the literature of dermatology to the *Edinburgh Medical Journal*, which embodied the whole development of the specialty. His Manual Diseases of the Skin has passed through four editions and is familiar to us all. He was the first man, Walker says, to use X-ray in mycosis fungoides.

His special hobby was archery and he was a conspicuous member of the picturesque King's Body Guard for Scotland, to which he was also surgeon. Besides the honor which his colleagues paid him, he received several medals and was a Knight of Grace of the Order of St. John of Jerusalem.[1]—J. C. J.

NOTICE.

The next issue of THE JOURNAL will contain an unusually interesting, timely and valuable article from the pens of Dr. J. F. Schamberg and his associates. The article gives the results of exhaustive experiments to determine the toxicity and the comparative toxicity of salvarsan, neosalvarsan, arsenobenzol and other products of a similar nature.

[1] Transcripts of an Obituary by Dr. Norman Walker in the *British Journal of Dermatology*.

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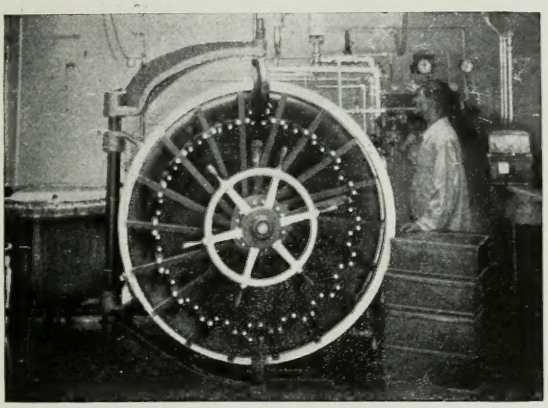

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